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ABSTRACTS

FIBERS A

SOME ASPECTS OF FIBER PHYSICS. R. Meredith (Royal Coll. Sci. & Technol., Glasgow). J. Textile Inst. 51: P527-P537 (Aug. 1960). (4238)

This paper is mainly concerned with those aspects of fiber physics which describe and explain the properties and behavior of fibers in relation to their physical environment, i.e., their reaction to stresses and strains, moisture, and heat. Practical consequences of the properties revealed by physical measurements and what such measurements can tell us about the internal structure of the fiber are discussed. Graphs, 38 refs.

STUDY OF MOLECULAR STRUCTURE OF FIBERS. G. N. Ramachandran and V. Sasisekharan (Univ. of Madras). J. Sci. Ind. Research (India) 19A: 357-366 (Aug. 1960). (4239)

The purpose of this paper is to review the various physical methods available for the study of fiber structures and to present a brief survey of the main results obtained by such studies. 31 refs.

PRACTICAL EVALUATION OF STRESS-ELONGATION BEHAVIOR. J. Juilfs. Melliand Textilber. 41, No. 7: 800-803 (1960). In German. Through BCIRA 40: 3279 (1960). (4240)

On the basis of measurements carried out recently, the author examines the effects of magnitude and duration of preliminary load on the dry (conditioned) and wet stress-elongation behavior of viscose rayon, cotton, polyvinyl chloride, polyamide, polyester, and polyacrylonitrile fibers. The respective stress-elongation curves are shown and interpreted.

STUDIES ON THE VISCOELASTIC BEHAVIOR OF HIGH POLYMER SOLIDS. PART 3. CHARACTERISTIC PROPERTIES OF VARIOUS POLYMER GROUPS. M. Ohira, F. Kitajima, and H. Iino. Bull. Textile Research Inst. (Japan) No. 53: 9-16 (1960). In Japanese (English summary). Through BCIRA 40: 3281 (1960). (4241)

The internal resistance coefficient (K), determined by treatment with 10% sulfuric acid and phenol, and the mechanical properties of cellulose, polyamide, polyvinyl alcohol, saponified cellulose acetate and other fibers were studied, and the relations between K and tenacity, knot tenacity, impact breaking energy, Young's modulus, and resistance to abrasion are plotted.

FUNDAMENTALS OF FIBER RESEARCH: A PHYSICIST'S STORY. W. T. Astbury (Univ. of Leeds). J. Textile Inst. 51: P515-P526 (Aug. 1960). (4242)

Some of the past, present, and possible future operations of physics in fiber science at the level of molecular structure are summarized. Photo, photomicrographs.

Natural fibers A1

STUDIES ON RABBIT FIBERS. PART 31. COEFFICIENT OF FRICTION BETWEEN FIBER AND FIBER. S. Okajima, S. Ikeda, T. Dote, and K. Inoue. J. Soc. Textile Cellulose Inds. Japan 16, No. 6: 451-457 (1960). In Japanese (English summary). (4243) Through BCIRA 40: 2947 (1960).

The fiber-to-fiber friction is similar to that between fiber and metal.

CHEMICAL SHRINKAGE AND RELAXATION OF COLLAGEN FIBERS. M. Chvapil and R. Zahradnik. Biochim. Biophys. Acta 40, No. 2: 329-339 (1960). Through BCIRA 40: 2951 (1960). (4244)

The chemical contraction and shrinkage of collagen fibers are described in terms of kinetics, and the factors influencing the course of fiber length variations are studied.

GUIDE TO THE IDENTIFICATION OF ANIMAL FIBERS. H. M. Appleyard (Wool Inds. Research Assoc.). Wool Inds. Research Assoc., Torridon, Headingley Lane, Leeds 6, England. 1960. 118 p. $5.90 [approx.]. (4245)

A laboratory manual containing tabulated whole mount, cross-section, and scale pattern descriptions and photomicrographs of fibers from 44 different species of mammals.

TORSIONAL PROPERTIES OF SINGLE WOOL FIBERS. PART 1. TORQUE-TWIST RELATIONSHIPS AND TORSIONAL RELAXATION IN WET AND DRY FIBERS. T. W. Mitchell and M. Feughelman (C.S.I.R.O. Wool Research Labs.). Textile Research J. 30: 662-667 (Sept. 1960). (4246)

An apparatus is described for the direct measurement of torque-twist relationships for single wool fibers. Torque-twist measurements were carried out on single wool fibers at a constant rate of straining and torque relaxation measurements at various twist levels. Measurements were also carried out on the torque relaxation of a single fiber, both wet and dry, at fixed values of twist. Diagrs, graphs, 5 refs.

COTTON GINNING IN UGANDA AND TANGANYIKA. L. H. C. Tippett (Brit. Cotton Ind. Research Assoc.). Textile Mfr. 86: 297-298 (Aug. 1960); 344-345 (Sept. 1960). (4247)

SHORT FIBER CONTENT OF COTTONS: TEST RESULTS FOR SEVERAL HUNDRED BALES. U. S. Agri. Mktg. Serv., Cotton Div., Washington 25, D.C. Oct. 1960. 3 p. AMS-413. (4248)

KINETIC STUDY OF THE WOOL-WATER SYSTEM. PART 2. MECHANISMS OF TWO-STAGE ABSORPTION. I. C. Watt (C.S.I.R.O. Wool Research Labs.). Textile Research J. 30: 644-651 (Sept. 1960). (4249)

Detailed kinetic data on 2-stage absorption are presented, and the results are discussed in relation to absorption mechanisms previously proposed (see abstr. 2692/60) for polymer-penetrant systems. It is apparent from the data that the magnitude of the rates of sorption and the equilibrium sorption values vary according to the previous history of the wool sample, although for a standard pretreatment the observed behavior is reproducible and self-consistent. Graphs, tables, 19 refs.

THE AMERICAN COTTON BALE PACKAGE AND OUR FOREIGN MARKETS. M. R. Cooper and R. H. McRae. U. S. Agri. Mktg. Serv., Washington, D. C. June 1960. 19 p. AMS-386. (4250)

The report contains 5 recommendations for improved practices in packaging export cotton: (1) better covering of the bale heads, (2) use of close-weave wrapping material, (3) patches on both sides of those bales sampled three or more times before high compression, (4) use of more care in preventing contamination of bale surfaces, and (5) efforts to improve the sampling of United States cotton in foreign ports.

EARLY APPLICATIONS OF BOTANY TO COTTON. W. L. Balls. J. Textile Inst. 51: P434-P438 (Aug. 1960). (4251)

RIO GRANDE'S 1960 COTTON CROP. F. L. Gerdes. Textile World 110: 55 (Oct. 1960). (4252)

Fiber properties of the 1960 crop are generally superior both to last year's crop and to the 5 year average. Among the improvements are tensile strength, manufacturing waste, and grade. Staple length is slightly off and neps are higher.

COTTON FIBER TEST VALUES. K.-H. Koschny. Textil-Praxis 15, No. 6: 600-602 (1960). In German. Through BCIRA 40: 3286 (1960). (4253)

Micronaire and Pressley values are listed in tables for cottons from North, Central and South America, Africa, Asia, and Europe (1959/60 season).

MAINTENANCE OF STAPLE LENGTH STANDARDS IN THE U.S.A. E. Lord (Shirley Inst.). J. Textile Inst. 51: T375-T384 (Sept. 1960). (4254)

A study is made of the consistency of staple length classification represented by the "Official Cotton Standards of the United States for Length of Staple". Measurements of effective length determined from comb sorter diagrams of standard type samples of American Upland cotton obtained between 1935 and 1958 show that: (1) no marked change has occurred in the level of staple length classification during this period and (2) individual type samples are occasionally in error by $\pm$ 1/32 in., but a divergence of $\pm$ 1/16 in. between the actual and nominal staple length is uncommon. The relationship between staple length of Upland cotton and effective length is presented in the form of an equation and as a transformation table. Comb sorter diagrams on the limited range of American-Egyptian standards show that this class of cotton is classified for staple length on a basis differing from that used for American Upland. Graphs, tables, 3 refs.

MECHANICAL SAMPLING OF COTTON. M. R. Cooper, J. D. Campbell, and D. L. Pritchard. U.S. Agri. Mktg. Serv., Washington 25, D. C. July 1960. 35 p. Mktg. research report no. 412. (4255)

This study was made to provide information helpful in evaluating the mechanical and conventional methods of sampling and in recognizing and overcoming barriers to the wider use of mechanical sampling. The information was obtained mainly during 1958 and 1959 by personal interview and by mail questionnaire from representatives of the domestic cotton industry, sampler manufacturers, and others with experience relating to both mechanical and conventional sampling.

THE APPLICATION OF GENETICS TO COTTON IMPROVEMENT. J. Hutchinson. The University Press, Cambridge, England. 1959. 87 p. $3.00. (4256)

Manmade fibers A2

STRUCTURE AND PROPERTIES OF ARNEL 60--A NEW CELLULOSE TRIACETATE STAPLE FIBER. B. S. Sprague (Celanese Corp.). Textile Research J. 30: 697-704 (Sept. 1960). (4257)

The wet and hot wet mechanical properties of Arnel 60 are improved over Arnel staple, suggesting improved washability and ease-of-care performance. The improvement in mechanical properties is ascribed to increased orientation and a narrower molecular tautness distribution. Unlike Arnel, the fiber has a rough textured surface which provides a natural semidull luster and gives, in conjunction with natural crimp, sufficient cohesiveness for fiber processing. Arnel 60 is similar to Arnel in heat settability, ironing and glazing performance, dimensional stability, dyeing behavior, and dyefastness. Photomicrographs, diagrs, graphs, tables, 5 refs.

REVERSIBLE CRIMP IN AN ACRYLIC FIBER. E. M. Hicks, Jr., J. F. Ryan, Jr., R. B. Taylor, Jr., and R. L. Tichenor (E. I. du Pont de Nemours & Co.). Textile Research J. 30: 675-679 (Sept. 1960). (4258)

A new acrylic fiber (Orlon Sayelle) having a bilateral or 2-component structure is described. This product shows fiber characteristics of development of 3-dimensional crimp when heated and reversible crimping upon wetting and drying. The fiber properties reflect themselves in fabric as wool-like aesthetics, elasticity, loft, and resistance to permanent heat deformation. Photos, photomicrographs, tables, 16 refs.

ZEFRAN ACRYLIC FIBER. J. R. Overby and H. N. Woessner (Dow Chem. Co.). Can. Textile J. 77: 35-42 (Sept. 30, 1960). (4259)

The physical, chemical, and fabric properties of Zefran are described, and recommended procedures for processing Zefran on the cotton, woolen, and worsted systems, and for warping, weaving, and knitting are summarized. Photos, tables.

NEW DEVELOPMENTS IN POLYVINYL ALCOHOL FIBERS. R. D. Wells (Air Reduction Chem. Co.) and H. M. Morgan (Fabric Research Labs.). Textile Research J. 30: 668-674 (Sept. 1960). (4260)

Data on the properties and feasible commercial applications of vinal 5F and FO are presented. Photomicrographs, graphs, tables, 8 refs.

GLASS FIBERS. H. M. Rogers (Lockwood, Greene Engineers). Modern Textiles Mag. 41: 42, 44 (Oct. 1960). (4261)

The production methods and major end uses for glass fibers are outlined.

X-RAY STUDIES ON THE EFFECT OF TEMPERATURE ON THE STRUCTURE OF POLYAMIDE FIBERS. A. V. Ustinova and N. S. Andreeva. Vysokomol. Soed. 2, No. 6: 958-959 (1960). In Russian. Through BCIRA 40: 3295 (1960). (4262)

The investigation carried out on Kapron and Enant fibers showed that, at low temperatures (e.g. -35°), the meridional interference characteristic for these polyamides splits into two strong meridional reflections. On heating the cooled samples to room temperature, the initial x-ray pattern is completely restored. Whether these structural changes caused by the decrease in temperature are associated with second-order phase transitions will be ascertained in further investigations.

STUDIES ON THE POLYAZINE FIBERS, THE NEW POLYAMIDE FIBERS WITH PYRIDINE RINGS IN THE MAIN CHAIN. PART 7. PROPERTIES OF THE POLYMER AND FIBERS. A. Okada and others. Bull. Textile Research Inst. (Japan) No. 53: 1-8 (1960). In Japanese (English summary). Through BCIRA 40: 3082 (1960). (4263)

The polymer can be melt-spun, and the fibers have high Young's modulus and good dyeing ability.

TERYLENE IN INDUSTRIAL APPLICATIONS. Skinner's Silk & Rayon Record 34: 862-864 (Sept. 1960). (4264)

SM27: MANMADE HIGH-MODULUS CELLULOSIC FIBER. G. V. Lund and J. Wharton (Courtaulds Inc.). Textile Research J. 30: 692-697 (Sept. 1960). (4265)

SM27 is a fiber with most of the advantages of rayon, but with a high Hookean modulus, both dry and wet, and good resistance to caustic soda solutions able to enter markets hitherto closed to rayon. Its fiber, processing, and fabric characteristics are described. Photomicrographs, diagr, graphs, tables, 6 refs.

HANDLING OF POLYNOSIC FIBER Z 54. L. Martin. Rayonne et Fibres Synthet. 16, No. 5: 461-470 (1960). In French. Through BCIRA 40: 2890 (1960). (4266)

The author discusses the behavior during preparation, bleaching, dyeing, printing, and finishing of textiles from polynosic fiber Z 54 which, as compared with the classical type of regenerated cellulose fibers, has an increased elasticity modulus, higher wet-strength, lower breaking elongation, and reduced swellability in water.

APPLICATION OF UV ABSORBERS TO TERYLENE POLYESTER FIBER. P. T. Standring and G. W. Penmore (Imp. Chem. Inds. Ltd). (Letter to the editor). J. Textile Inst. 51: T336-T338 (Aug. 1960). (4267)

By means of recent experimental work it has been possible to isolate fairly closely the narrow band of wavelengths in the UV region responsible for the degradation of Terylene. In addition, outdoor exposure trials have indicated the improvements in light resistance possible by treating Terylene with UV absorbers. Graphs, 3 refs.

GUIDEBOOK TO MANMADE TEXTILE FIBERS, TEXTURED YARNS, AND DYEING CHARACTERISTICS OF BLENDED FIBERS. United Piece Dye Works, 1410 Broadway, New York 18, N.Y. 1960. 34 p. $2.00. (4268)

This booklet has been prepared as a quick, ready-reference guide to the trade-marks or fiber designations of manmade textile fibers and textured yarns, with brief descriptions of the fibers and yarns, their Federal Trade Commission generic classifications, the names of their producers or sources, and their dyeing characteristics. The data has been alphabetically cross-indexed in four ways: (1) trade-marks or present fiber designations, (2) producers or sources, (3) FTC generic classes, with trade-marks and producers grouped within each category, (4) textured yarns. Dyeing characteristics of blended fibers are presented in chart form.

EXPERIMENTAL SPINNING MACHINE. Chemtex Inc. Modern Textiles Mag. 41: 63 (Oct. 1960). (4269)

The machine is intended for evaluating fiber-forming characteristics of experimental polymers and can be used in investigations conducted in both melt or solvent spinning. Diagr.

MANMADE FIBERS: BIG TODAY, BIGGER TOMORROW. E. J. Hanlon (Calvin Bullock Ltd). Modern Textiles Mag. 41: 63-66 (Sept. 1960). (4270)

The present and potential economic growth of the manmade fiber industry is reviewed.

DESKBOOK OF MANMADE FIBER FACTS. H. G. Janner and J. Campbell. Modern Textiles Mag. 41: 47-62, 67-82 (Sept. 1960). (4271)

The complete deskbook includes fiber tradenames, properties, and generic definitions, as well as table of denier numbers and filament counts. Reprints of this Deskbook Section are available from Modern Textiles Magazine, 303 Fifth Ave., New York 16. Deskbook reprints complete with the pullout tables of deniers and filaments are $1.00 each. Without the pullout tables, the price is 50¢. Denier and filament tables may be ordered separately at 50¢.

NEW CELLULOSIC FIBERS. I. H. Welch and W. S. Sollenberger (Am. Viscose Corp.). Am. Dyestuff Reptr. 49: P695-P700 (Sept. 19, 1960). (4272)

Three new rayon staple fibers and one continuous filament yarn are described. Avron, with its high strength, high elongation, and high abrasion resistance, is particularly suitable for blends with the synthetics. Avril, a high wet modulus fiber, has inherent stability equal to that of cotton, good resistance to caustic treatments, and may be stabilized by compressive shrinkage processes. Avlin, with its flat cross section, permits durable hand modification in blends with other cellulosics and the synthetics without the use of surface resins. Avicron, a latent crimp continuous filament yarn, is activated by wet processing to develop a unique texture. The crimp and curled texture is permanent and not progressive. The dyeing and finishing characteristics of each of these rayons is emphasized. Photomicrographs, graphs.

JAPAN'S CHEMICAL FIBERS. Fibres and Plastics 21: 261 (Sept. 1960). (4273)

The types and amounts of manmade fibers currently being produced are summarized.

TWENTY-FIVE YEARS OF MANMADE FIBERS. H. Melville. J. Textile Inst. 51: P382-P391 (Aug. 1960). (4274)

THE NEW RAYONS. J. W. S. Hearle. Man-Made Textiles 37: 42-47 (Sept. 1960). (4275)

The manufacture and characteristics of the new high modulus polynosic fibers (Z54, SM27, Zantrel, and Avril) and cross-linked cellulose fibers (Corval and Topel) are described and compared with the manufacture and characteristics of ordinary rayon. Photomicrographs, graphs, tables.

YARN PRODUCTION B

WOOLEN SYSTEM CARPET YARNS OF CRESLAN ACRYLIC FIBER. Modern Textiles Mag. 41: 22, 66 (Oct. 1960). (4276)

Recommendations on machine settings and speeds for processing Creslan on the woolen system. 4 refs.

CUTFIX PRECISION FLOCK CUTTING MACHINE. W. T. Swatek. Melliand Textilber. 41, No. 7: 794-796 (1960). In German. Through BCIRA 40: 3072 (1960). (4277)

The machine described consists essentially of two units: the cutting machine with driving motor, and the pneumatic transporting and filling device for the cut flock.

RECENT IMPROVEMENTS IN TEXTILE PROCESSING MACHINERY AND METHODS. R. A. Rusca (So. Reg. Research Lab.). Textile Research J. 30: 685-691 (Sept. 1960). (4278)

Some of the Southern Regional Research Laboratory's more recent accomplishments in relating cotton fiber properties to textile product quality and processing efficiency are reported. Among the more important areas of work are blending fibers of contrasting fiber properties, effects of short fibers, effect of fiber properties and processing variables on spinning and weaving efficiencies, and effect of fiber maturity on fabric dimension during weaving and chemical finishing. Photo, diagrs, tables, 28 refs.

PROCESSING BLENDS OF DACRON AND WOOL ON THE WORSTED SYSTEM. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1960. 12 p. Bull. D-129 (replaces Bull. D-82). Free. (4279)

PROCESSING MANMADE FIBERS AND BLENDS IN THE COTTON INDUSTRY. E. Hayhurst (Courtaulds Ltd). Textile Mfr. 86: 353-355 (Sept. 1960). (4280)

Mill technique and practice in blending, opening, carding, drawing, and drafting of rayon staple, Courtelle, Celafibre, Tricel, and nylon, etc. Diagrs.

COURSE OF MATERIAL FLOW. P. Kamper. Tex 19, No. 4: 200-205 (1960). In Dutch. Through BCIRA 40: 2839 (1960). (4281)

Organization of the transport of intermediate products, auxiliary material, etc. in spinning mills is discussed, and flow sheets are given.

TERYLENE/FLAX BLENDS. Textile Merc. 143: 377-378 (Sept. 16, 1960). (4282)

The preparation, spinning, finishing, and fabric properties of 67/33 Terylene/flax blends are described.

QUALITY CONTROL IN WORSTED SPINNING. Textile Recorder 78: 44-46 (Oct. 1960). (4283)

Methods of tackling various problems which arise during the introduction of modern machinery and quality control systems are suggested. Photos.

SPINNING OF ARTIFICIAL AND SYNTHETIC FIBERS ON COTTON EQUIPMENT. PARTS 4 AND 5. Rayonne et Fibres Synthet. 16, No. 4: 353-368; No. 5: 493-506 (1960). In French. Through BCIRA 40: 2851 (1960). (4284)

In conclusion of previous articles (abstr. 2706 and 3048), drawframe, speedframe, and spinning machine constructions suitable for processing artificial and synthetic fibers, respectively, are described, and spinning plans are given for the respective fibers. Various conversion tables (for different count systems, twist coefficients, etc.) are appended.

FIBER REBREAKING MACHINE. La Duranitre SA. Textile Recorder 78: 70 (Oct. 1960). (4285)

Designed particularly for use in conjunction with tow-to-top conversion units, the machine described reduces the length of all fibers below a pre-set maximum. Diagr.

Opening, picking, fiber preparation B1

SILO METHOD FOR WOOL BLENDING. Bigelow-Sanford Inc. Am. Textile Reptr. 74: 29-31, 54 (Oct. 20, 1960). (4286)

In the silo blending method, each silo is divided into 16 pie-shaped vertical sections. A distributor rotates at the top of the silo delivering equal amounts of wool to each section which is emptied separately, opened and picked, and then sent to the next silo where it goes through the same process until it has been through three silos and comes out as a homogeneous blend. Diagrs.

CLEANING COTTON BY AIR. R. A. Hetherwick and H. W. Weller (So. Reg. Research Lab.). Textile Inds. 124: 163-165 (Oct. 1960). (4287)

The SRRL aerodynamic cleaner was designed for use with the SRRL opener-cleaner and is attached to and becomes an integral part of the opener-cleaner. This paper describes the laboratory evaluation of the aerodynamic cleaner and of two cotton cleaning lines, one of which includes the aerodynamic cleaner. Diagr, tables, 3 refs.

Carding and combing B2

EFFECTIVE SAFETY HOODS FOR BREAKER CARDS. K. Müller. Melliand Textilber. 41, No. 6: 664-665 (1960). In German. Through BCIRA 40: 2830 (1960). (4288)

The necessity and functions of safety hoods on breaker cards to prevent accidents are discussed.

MULTIPLE CYLINDER CARD FOR COTTON AND MANMADE FIBERS. Officine Fonderie Fratelli Bettoni. Textile Recorder 78: 64 (Oct. 1960). (4289)

The MB-4 card consists of four separate and, as far as the carding action is concerned, independently operating carding units with their cylinders mounted on a common shaft. Each unit delivers a sliver onto a folding table running along the front of the machine and this table conveys them to a drafting head at the headstock end in which they are drawn out and combined into a single sliver which is then coiled into a can. Photo, diagr.

AUXILIARY FIBER FEED FOR JUTE CARDS. Giddings & Lewis-Fraser Ltd. Textile Recorder 78: 90 (Sept. 1960). (4290)

The sliver dispersal unit described is a simple feeding device designed to provide an efficient means of metering and blending fibers with different characteristics on the feed sheet of the jute breaker card. Photo.

BALL AND BANK FEED FOR WOOLEN CARDS. PART 2. J. A. B. Mitchell. Textile Mfr. 86: 349-351 (Sept. 1960). (4291)

The high degree of mixing power of the ball and bank feed is demonstrated, and its use as the intermediate feed in a three-part set for matching and shading color mixture yarns and for correcting weight variations in individual slubbings is described. See also abstr. 2278/60. Photos, diagr.

PNEUMATIC CARDING. Industrie Textile: 423-424 (June 1960). In French. Through BCIRA 40: 3110 (1960). (4292)

The new card described (developed by Reiterer, Windisch, and Niefonecker) has a large cylinder subjected to a pneumatic blowing action, which considerably facilitates detachment of the fibers and renders the use of the doffer unnecessary. The extent and intensity of the blowing-zone action is adjustable.

Drawing and roving B3

REMEDY FOR VIBRATION IN SPEEDFRAME ROLLERS. Brit. Rayon Research Assoc. Textile Weekly 60 (2): 643 (Sept. 16, 1960). (4293)

A remedy for vibration in the back and middle rollers of 3-line speedframes is provided by a 2-over 3 arrangement of rollers. The method of converting conventional frames to this system is described. Diagr.

DEVELOPMENTS IN COTTON SPINNING. HIGH SPEED DRAWFRAMES. Bull. Inst. Textile France No. 86: 147-160 (Jan./Feb. 1960). In French. Through BCIRA 40: 2836 (1960). (4294)

Classical and modern drafting methods are reviewed, and various types of high speed drawframes are described. 24 refs.

FOUR NEW RIETER DRAFTING SYSTEMS. W. T. Swatek. Melliand Textilber. 41, No. 6: 659-663 (1960). In German. Through BCIRA 40: 2837 (1960). (4295)

Four new systems for the Rieter flyer frame (abstr. 4083/59) are described and illustrated.

CAUSES OF SLIVER WEIGHT VARIATIONS ON THE RIETER RIBBON LAPPER. D. F. Van de Riet. Tex 19, No. 5: 256-260 (1960). In Dutch. Through BCIRA 40: 2833 (1960). (4296)

Abnormal weight variations in the slivers from Rieter ribbon lappers were found to be due to slippage of the back roller. By increasing the total top roller weighting from 90 to 120 kg it is possible to eliminate the variations.

TWIST IN WORSTED OPEN DRAWING. A. Brearley and E. Oxtoby (Huddersfield Coll. Technol.). Textile Recorder 78: 68-69, 75 (Sept. 1960). (4297)

An experiment to determine the effect of twist direction during the preparatory processes in worsted open drawing on the Bradford system is described. There is some indication that a change in the direction of twist at some stage may be beneficial in reducing roving irregularity, but there does not seem to be any point in applying alternate Z and S twists in successive machines throughout a drawing set. Graph, tables, 4 refs.

Spinning, winding, twisting B4

CALCULATION OF THE ECONOMY OF DOUBLE-TWIST TWISTING MACHINES AND RING SPINNING MACHINES. W. Brändle. Melliand Textilber. 41, No. 6: 674-675 (1960). In German. Through BCIRA 40: 2850 (1960). (4298)

A comparison is made between the production costs of these two machines to show that, in the long run, the double-twist system is more economical.

SHORTENED SPINNING IN BRITAIN AND USA. W. P. Bulmer. J. Bradford Textile Soc.: 34-41 (1958-59). (4299)

An address, chiefly on the American system of shortened worsted spinning.

GERMAN WORSTED RING SPINNING FRAME. Deutscher Spinnereimaschinenbau Ingolstadt. Textile Recorder 78: 65 (Oct. 1960). (4300)

Suitable for spinning from either twistless rovings prepared on the Continental system or from lightly twisted rovings produced on a cone rover, the RW 10 worsted frame is a simplified frame with fixed spindle rails and traversing ring rails. The frame incorporates single balloon control rings and rising and falling lappets. Various designs of creels are supplied, permitting either single end or double creeling. Photos.

INVESTIGATIONS INTO THE PERFORMANCE OF RING TRAVELERS ON SPINNING RINGS OF COTTON RING SPINNING MACHINES. O. König and H. Herdtle. Textil-Praxis 15, No. 5: 453-456; No. 6: 558-564; No. 7: 686-690 (1960). In German. Through BCIRA 40: 3121 (1960). (4301)

Factors affecting the performance of ring travelers on the spinning ring (cooling of the traveler, shape of traveler and ring, thread tension, friction coefficient between traveler and ring, traveler vibrations and lubrication of the path on the spinning ring) are discussed, and it is concluded that the dry friction coefficient is of some, but not of decisive importance. It is important, however, that a continuous lubricating film of crushed fibers is present on the running surface of the ring to produce normal friction conditions. Tarnished or burnt travelers indicate abnormal friction conditions.

IMMOBILIZATION OF THE BOBBIN ON DOUBLE TWIST SPINDLES. Industrie Textile: 433-434 (June 1960). In French. Through BCIRA 40: 3127 (1960). (4302)

The device for immobilizing the bobbin consists of two adjacent coaxial annular magnets, one of which is mounted on a fixed support while the other forms one piece with the spindle to be immobilized. These magnets present north and south poles distributed alternatively over their whole periphery. The mechanism is described.

AUTOMATIC MACHINES FOR CLEANING BOBBINS FROM AUTOMATIC SYSTEMS. H. Kirchenberger. Melliand Textilber. 41, No. 6: 690-691 (1960). In German. Through BCIRA 40: 2861 (1960). (4303)

Types of available machines for cleaning bobbin tubes are reviewed, and their mechanisms are described.

STUDIES ON THE WOOLEN MULE. PART 1. S. Kurosaki and F. Konda. J. Soc. Textile Cellulose Inds. Japan 16, No. 6: 475-478 (1960). In Japanese (English summary). Through BCIRA 40: 2841 (1960). (4304)

The degree and profile of tension generated during drafting were studied with a specially designed tester. The tension profiles are influenced mainly by the tensile properties of the material, partly by the counts and fiber length.

HIGH SPEED WINDING OF COTTON YARNS. Centre de Recherches des Industries Textiles de Rouen. Bull. Inst. Textile France No. 86: 55-100 (Jan./Feb. 1960). In French. Through BCIRA 40: 2859 (1960). (4305)

Three aspects of high speed winding of cotton yarn are studied: (1) unwinding (the effects, on yarn tension, of speed, distance between cop nose and thread guide, yarn count and tube characteristics, as well as slippage of yarn windings occurring only at high speeds); (2) winding conditions on ring spinning machines in view of high speed unwinding, and the possibility of improvements; (3) means for reducing the number of end breakages on winding machines (use of accelerators).

ROLL SETTING AND PRELIMINARY DRAFT ON THE BALMES SYSTEM. R. Audivert. Investigacion e Informacion Textil 3, No. 1: 17-27 (1960). In Spanish. Through BCIRA 40: 3119 (1960). (4306)

In the experiments described, various yarn counts were spun from slivers with two different thicknesses. Examination of the yarn showed that, with decreasing draft (at relatively low drafts in the range of 8-16), the value K in the formula for determining optimum draft distribution (see abstr. 1175/59 and 894/60) approaches 1, whereas at total drafts between 16 and 30, the K-value can be considered as being constant and equal to 0.7. It was also found that the optimum roller settings must be 2-3 mm greater than the effective fiber length.

SPINDLE DRIVES. PARTS 1 AND 2. TWO NEW SPINDLE DRIVES. P. Kamper. Spinner u. Weber 78, No. 1: 33-38; No. 6: 393-395 (1960). In German. Through BCIRA 40: 2843 (1960). (4307)

Various types of spindle drives are reviewed, with special reference to two new developments exhibited at the Milan textile machinery exhibition: the single-spindle drive with elastic tapes and stop spindle and a new four-spindle tape drive.

CENTRIFUGAL SPINNING SPINDLE. C. P. Isern. Investigacion e Informacion Textil 2, No. 4: 277-287 (1959). In Spanish. Through BCIRA 40: 2842 (1960). (4308)

After a brief historical review of the technical development of spinning spindles, the author discusses the use of centrifugal spindles at various stages of spinning cotton and synthetic fiber yarns, with special reference to the winding conditions and yarn tension in centrifugal spinning spindles and in the ring traveler, spinning spindles for staple fibers, and the potentialities of centrifugal spindles.

CALCULATION OF YARN TWIST AND TWIST WHEELS IN THE TEX SYSTEM. U. Schirdewan. Textil-Praxis 15, No. 6: 579-583 (1960). In German. Through BCIRA 40: 3123 (1960). (4309)

Formulas and conversion tables are given and the use of a slide-rule is explained.

PROBLEMS OF TWIST. PART 2. J. W. S. Hearle. Skinner's Silk & Rayon Record 34: 853-859 (Sept. 1960). (4310)

Additional data on the effect of twist on yarn strength are presented. Photos, photomicrographs, diagrs, graphs.

SOME EXPERIMENTS ON PRELIMINARY DRAFTS ON RING SPINNING MACHINES. H. Kolb. Textil-Praxis 15, No. 5: 475-478 (1960). In German. Through BCIRA 40: 3120 (1960). (4311)

It is shown how, at varying total drafts, the partial drafts can be adjusted by simple means (use of a few change wheels) to obtain optimum yarn values when processing crimped viscose rayon. In general, increased preliminary drafts give noticeable quality improvement only if the total draft exceeds 30. It is not possible to fix an accurate limit; the preliminary draft depends in each case upon the raw material used, the staple diagram and other factors.

ELASTIC SINGLE-SPINDLE DRIVE ON THE RING SPINNING MACHINE AND ITS ADVANTAGES. G. Porsche. Melliand Textilber. 41, No. 6: 667-668 (1960). In German. Through BCIRA 40: 2844 (1960). (4312)

The advantages of the elastic single-spindle drive as compared with the conventional four-spindle drive are discussed.

Yarns B5

MECHANICS OF TWISTED YARNS: FURTHER STUDIES OF THE TENSILE PROPERTIES OF CONTINUOUS-FILAMENT YARNS. J. W. S. Hearle, H. M. A. E. El-Behery, and V. M. Thakur (Manchester Coll. Sci. & Technol.). J. Textile Inst. 51: T299-T316 (Aug. 1960). (4313)

This paper reports continued studies of the tensile properties of twisted continuous-filament viscose rayon, Tenasco, acetate, nylon, and Terylene yarns, with particular reference to the influence of twisting tension, the differences between ring-twisted and uptwisted yarns, values of the work of rupture and the yarn contraction due to twisting, the change of yarn diameter during extension, the measurement of properties of filaments extracted from the yarns, and a study of glued and unglued model yarns. Diagr, graphs, tables, 5 refs.

FLAKE TWISTS AND FLAKE YARNS. P. J. M. Van Gorp. Tex 19, No. 5: 288-292 (1960). In Dutch. Through BCIRA 40: 2852 (1960). (4314)

Two groups of effect yarns are discussed: flake twists (folded yarns) obtained by twisting together two or more threads, and flake yarns (singles yarns), the flake effect being obtained in the spinning process (1) by stopping the rollers periodically; (2) by stopping the doffer periodically; (3) by using various devices; (4) by combers moving to and fro in the direction of the running yarn.

STUDY ON CREPE YARN. PART 3. STRAINS OF COMPONENT FILAMENTS. I. Gemma and Y. Fukushima. J. Textile Machy. Soc. Japan 13, No. 6: 426-434 (1960). In Japanese (English summary). Through BCIRA 40: 2961 (1960). (4315)

When yarn is twisted at fixed length or under constant tension, the assumption of a helical structure can be used to calculate the strains in the component filaments, except for the inner region of the neutral layer where the filaments buckle and are not simply compressed axially.

MATHEMATICAL STUDY OF TWIST. D. Gautier. Industrie Textile: 349-356 (May 1960). In French. Through BCIRA 40: 2849 (1960). (4316)

The study concerns in particular the twist of single yarns under varying spinning conditions.

DEFORMATION BY TWISTING OF TEXTILE FILAMENTS. PART 2. CHANGE OF TWIST MOMENT BY EXTENSION AND HEAT TREATMENT. K. Matsuda. J. Soc. Textile Cellulose Inds. Japan 16, No. 2: 95-99 (1960). In Japanese (English summary). Through BCIRA 40: 2963 (1960). (4317)

Amilan (polycaproamide) monofilament was examined. Heat treatment with 20% extension causes an increase in twist moment, but heat setting without restriction causes a decrease. The results are inconsistent with those of Mertens (abstr. 1150/59) but can be explained theoretically.

ENKA EXTRA WHITE NYLON YARN. Modern Textiles Mag. 41: 37-38 (Oct. 1960). (4318)

A comparison of the physical and processing properties of regular and Blanc de Blancs Enka nylon is made.

REPORT ON THE VARIABILITY IN ELONGATION-AT-BREAK OF COTTON YARNS. G. L. Louis, L. A. Fiori, and H. W. Little (So. Reg. Research Labs.). Textile Bull. 86: 101-104 (Sept. 1960). (4319)

The findings of this exploratory investigation indicate that variability in yarn strength cannot be used in place of yarn elongation variability and that variability in yarn elongation should be considered as another index of processing efficiency. Graphs, 10 refs.

SOME ASPECTS OF THE MANUFACTURE OF SEWING THREADS. PART 2. L. Cooke (English Sewing Cotton Co. Ltd). Textile Merc. 143: 271-277, 281 (Aug. 26, 1960). (4320)

The author describes dyeing and bleaching procedures, sewability tests, and the shortcomings of early synthetic fiber threads and how they were overcome. Photos, diagrs, graphs.

CONTACT ELECTRIFICATION AND POLARIZATION OF NYLON THREADS. R. G. C. Arridge. Brit. J. Appl. Phys. 11, No. 5: 202-205 (1960). Through BCIRA 40: 2964 (1960). (4321)

The decay of electric charges on nylon threads, at various relative humidities, has been studied. At rh's less than about 35% the charges remain localized and decay in magnitude at very nearly an exponential rate. Above 35% rh, the charges spread out along the thread and the decay of peak charge with time can be approximately represented by a $t^{-1/2}$ law. A diffusion equation has been applied in the latter case.

NOTE ON THE DISTRIBUTION OF WEAK POINTS IN YARNS. R Audivert. Investigacion e Informacion Textil 2, No. 4: 271-276 (1959). In Spanish. Through BCIRA 40: 2954 (1960). (4322)

Experiments carried out on the Blanxart continuous dynamometer are described. From the results it is concluded that there is a parabolic relationship between the number of weak places and the tension, and that the distribution of the lengths between consecutive breaks corresponds to the terms of a modified Poisson series.

FACTORS INFLUENCING THE COHESION OF WORSTED YARNS. A. Barella, P. Miró, and R. Crespo. Textile Research J. 30: 633-643 (Sept. 1960). (4323)

The different factors influencing the cohesion of worsted yarns, expressed as minimum twist of cohesion, are examined. The study involves the influence of the testing conditions, the influence of fiber parameters, and the influence of the treatments undergone by the fiber. Graphs, tables, 19 refs.

VISCOMETRIC STUDIES OF CELLULOSE IN JUTE FIBER DURING MECHANICAL PROCESSING. H. Chatterjee and A. K. Mazumdar (Indian Central Jute Comm.). (Letter to the editor). J. Sci. Ind. Research (India) 19B: 369-370 (Sept. 1960). (4324)

The effects of mechanical processing of jute and mesta fibers into yarn and reduction of fiber size in a laboratory mill have been investigated to find out whether these treatments cause any chemical degradation of cellulose. Cuprammonium viscosity (hence D. P.) determination of α-cellulose extracted from raw fiber and batched fiber, breaker and first drawing sliver, and yarn and ground fiber show that there is no appreciable variation in the viscosity of cellulose from these sources, except in the case of cellulose from ground material, which shows definite degradation. Tables, 9 refs.

THERMAL PROPERTIES OF KANEKALON/WOOL YARNS. S. Tsuchibayashi. Bull. Textile Research Inst. (Japan) No. 53: 17-26 (1960). In Japanese (English summary). Through BCIRA 40: 3311 (1960). (4325)

The effect of blend proportion on mechanical properties after dry and wet heating were studied.

PHYSICAL PROPERTIES OF KANEKALON/WOOL FABRICS. S. Tsuchibayashi, K. Shinkai, and T. Nagasaka. Bull. Textile Research Inst. (Japan) No. 53: 27-40 (1960). In Japanese (English summary). Through BCIRA 40: 3312 (1960). (4326)

The effects of blend composition were studied after dry and wet heating and after washing.

ROTOSET YARN OF DACRON TYPE 52 FOR INDUSTRIAL USES. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Sept. 1960. 2 p. Bull. NP-18. Free. (4327)

CRITICAL REVIEW OF THE STUDIES IN THE RELATIONSHIP BETWEEN FIBER PROPERTIES OF A COTTON AND ITS YARN STRENGTH. S. M. Nawaz and I. Afzal. Pakistan Inst. Cotton Research & Technol. Technological Bull. Series A, No. 2: 1-30 (Feb. 1960). (4328)

This paper reviews the work done for almost 40 years on the relationship between fiber properties of cotton and its spinning value, more particularly yarn strength. It is divided into three sections: (1) earlier work, (2) basic studies, and (3) statistical approach. Tables, 28 refs.

EFFECT OF DIFFERENT PRELIMINARY AND FINAL TWISTS ON THE STRENGTH AND ELONGATION PROPERTIES OF TIRE CORDS. W. Wegener and E. G. Hoth. Melliand Textilber. 41, No. 7: 804-812 (1960). In German. Through BCIRA 40: 3305 (1960). (4329)

Thirty-six viscose rayon tire cords with various twist combinations were examined on the dynamic fatigue testing machine PD11 (Wegener system) on the principle of periodically recurring, constant, upper, and lower limit loads (expressed in % of the breaking load). The results show the dependence of the breaking load, elongation at break, total elongation, elastic elongation, degree of elasticity, and elasticity modulus upon the twist combination or number of twists.

FABRIC PRODUCTION C

REPORT OF DISCUSSIONS OF QUESTIONS ON SLASHING AND WEAVING. Textile Operating Executives of Georgia. Atlanta, Ga. 1960. 10 p. (4330)

Slashing: multi cylinder slashers, size and/or size boxes, slasher waste, quality control, ball bearing creel versus plain, squeeze rolls, and quality control. Weaving: unifil, shuttles, cleaning and maintenance, new or special attachments and/or products, and general.

Warping, slashing, yarn preparation C1

INVESTIGATION INTO THE REMOVABILITY, BY WASHING, OF RADIOACTIVE LABELED, WATER-SOLUBLE ACRYLIC RESIN SIZES. H. Moroff and R. Kretz. Melliand Textilber. 41, No. 7: 848-850 (1960). In German. Through BCIRA 40: 3237 (1960). (4331)

A C^{14}-labeled Rohatex acrylic resin size was applied to rayon fabric so that, after drying, 4.5% solid size remained on the fabric. The washing tests were carried out with water at 20° C and it was found that, after two washing operations (each for 45 sec), the size was almost completely removed from the fabric.

BITROMA CONE WINDING MACHINE. F. Müller. Textile Weekly 60 (2): 697, 702 (Sept. 23, 1960). (4332)

The Bitroma permits winding of cheeses and cones of 5 in. or 6 in. traverse. The machine employs a split drum drive and a pressure release system for reducing the pressure on the drum as the package diameter increases. Photos, diagr.

AUTOMATION IN WARP WINDING. W. Settele. Melliand Textilber. 41, No. 7: 813-814 (1960). In German. Through BCIRA 40: 3154 (1960). (4333)

The construction and use of automatic warp-winding machines are discussed with a view to obtaining optimum conditions as regards production costs.

HIRSCHBURGER CONE WINDING MACHINES. Eugen Hirschburger KG. Textile Merc. 143: 343 (Sept. 9, 1960). (4334)

Features of the FKS for winding from hank to cone or from cone to cone and of the UKS for winding from cops to cone or for rewinding are described. Photo.

SNEAK PREVIEW OF CONTINENTAL MACHINERY DEVELOPMENTS. PART 1. Skinner's Silk & Rayon Record 34: 867, 870 (Sept. 1960). (4335)

Features of two new cone winders under development by Schweiter Ltd and W. Schlafhorst & Co. are described.

REELING OF CRIMPED YARN. W. Schmidli. Rayonne et Fibres Synthet. 16, No. 5: 523-531 (1960). In French. Chemiefasern 10, No. 5: 325-327 (1960). In German. Through BCIRA 40: 2860 (1960). (4336)

Hank-winding of bulked yarns (nylon, Enkalon, Perlon, etc.) to be subsequently dyed is discussed, with special reference to the weight of the hanks, their circumference and width, tying and final handling, and equipment of the machines.

WORK STUDY IN A WOOLEN MILL: WARPING. Textile Mfr. 86: 356-357 (Sept. 1960). (4337)

The scheme set out in this article arises from investigations in the warping department in a woolen mill and gives some detail of the control and bonus methods suggested. Tables.

PRINCIPLE AND APPLICATION OF A CAPACITANCE-TYPE YARN CLEARER. H.-J. D. Vogt. Textile Recorder 78: 48-50 (Oct. 1960). (4338)

This detailed account of the Qualitex yarn clearer includes an example of its use in a typical winding test. Photos.

YARN CLEARERS AND YARN CLEARING. PART 2. Textile Recorder 78: 70-72 (Sept. 1960). (4339)

Among the clearers described are: Slubtrap comb and trap type clearer (Leesona Holt Ltd); circular hole clearer (Belgrave Wire Works); electromagnetic clearer (Franz Müller); photoelectric Photoslubber (Linen Industry Research Assoc.); and Yarnspec (Leesona Holt Ltd); capacitance type clearers such as the Qualitex (Qualitex NV) and Uster clearers (Zellweger Ltd); and various warp inspectors, e.g. Detexomat (Qualitec Eng. Ltd) and Lindley warp inspectors (Coltex Ltd). Photos, diagr.

YARN CLEARERS AND YARN CLEARING. PART 3. Textile Recorder 78: 47-48 (Oct. 1960). (4340)

General consideration of the features and relative merits of the main types of clearers.

Weaving C2

MOVEMENT OF THE LAY IN SHUTTLELESS LOOMS. P. Ducard. Industrie Textile: 451-453 (June 1960). In French. Through BCIRA 40: 3162 (1960). (4341)

The mechanism described is claimed to eliminate the disadvantages arising from the sinusoidal movement imparted to the lay mounted by the conventional method. In this mechanism, the lay is connected with an oscillating arm driven by a crankshaft in such a manner that, while the oscillating arm moves at a considerable angle from one part to the other of its dead-center position, the movements of the lay are very weak and practically negligible.

FAULT DETECTOR FOR LOOMS. J.-P. Dalmier. Industrie Textile: 445-446 (June 1960). In French. Through BCIRA 40: 3164 (1960). (4342)

A photoelectric device for looms is described, designed to stop the loom movements if a fault is produced in the fabric. This device consists of two photosensitive elements scanning the surface and thickness of the fabric from its reflection and transparency. These two elements, excited by a single luminous source, are mounted at a small distance from each other. When a fault appears in the activity field of one of the photosensitive elements, the stop motion of the loom is automatically released.

SYMPOSIUM ON THE SHUTTLELESS LOOM. Can. Textile J. 77: 66-82 (Oct. 14, 1960). (4343)

Draper shuttleless loom, by J. C. Huff, Jr., p. 66-73; Maxbo shuttleless loom, by H. A. Nagel, p. 74-75; Weaving on the Sulzer weaving machine, by M. Steiner, p. 76-82.

LOOMFIXER AND HIS JOB. PART 22. W. Westbrook. Textile Bull. 86: 58 (Oct. 1960). (4344)

Pointers on the setting and adjustment of the shuttle feeler. Diagrs.

NEW HIGH-SPEED JAPANESE LOOM. Textile Merc. 143: 307, 317 (Sept. 2, 1960). (4345)

In this loom, developed by the Japanese Textile Research Institute, the shuttle is retained in its conventional form and customary speed. The loom speed, however, has been increased to 270-280 ppm for 50-in. reed space by a relatively simple modification to a standard single-shuttle non-automatic loom. The most important feature of the modification is the separation of the shuttle boxes from the lay. Photos, diagr.

GAGES IN DRAPER LOOM MAINTENANCE. PART 8. FINDING AND KEEPING ADEQUATE PICKING POWER. Textile Inds. 124: 189, 193-195 (Oct. 1960). (4346)

RELIABLE STOP MOTION ON LOOMS WITH SEVERAL SHUTTLES. J. Baltier. Industrie Textile: 455-456 (June 1960). In French. Through BCIRA 40: 3163 (1960). (4347)

The electro-mechanical device described can be used on all looms and, in particular, on looms with several shuttles operating simultaneously to stop the loom when the weft supply runs out or when the weft thread breaks.

PRESENT ASPECTS AND TRENDS IN THE AUTOMATION OF LOOMS. V. Hildebrand. Bull. Inst. Textile France No. 86: 101-124 (Jan./Feb. 1960). In French. Through BCIRA 40: 2868 (1960). (4348)

Semi-automatic looms, looms with large shuttles, and the main types of automatic looms are reviewed, a comparison being made of their advantages and disadvantages.

AUTOMATIC ELECTRICAL NAME-WEAVING DEVICE. H. Horak. Melliand Textilber. 41, No. 6: 681-685 (1960). In German. Through BCIRA 40: 2872 (1960). (4349)

The device for weaving names in warp direction (Apparatefabrik AG) consists of hooks moved by a relay-type control device in which the letters, symbols, and patterns are fitted in a predetermined weave and design, and function during weaving in the prescribed order. A device driven by the fluted roller of the loom ensures the correct arrangement of the name in the fabric. The device can operate in conjunction with a dobby or jacquard machine.

ELECTRICAL CONTROL MECHANISM ON RIBBON LOOMS. E. Peuster. Melliand Textilber. 41, No. 6: 685-689 (1960). In German. Through BCIRA 40: 2873 (1960). (4350)

Control mechanisms, such as warp and weft stop motions, control of bobbin drive, control of the performance of box motions, and control of taking-up motions, are reviewed.

PROTECTION OF WEAVING ELEMENTS. Grob & Co. Ltd. Textile Weekly 60 (2): 450, 462 (Aug. 26, 1960). (4351)

Suggestions for the care of heddles and heddle shafts are summarized. They are mainly concerned with devices for reducing heddle frame damage caused by frictional contact during weaving. Diagrs.

COMPUTING SHUTTLE SPEED AND THE AMOUNT OF WORK DONE PER PICK. (Letter to the editor). Indian Textile J. 70: 605 (Aug. 1960). (4352)

This letter comments that stroboscopic studies of shuttle action, as well as other factors affecting shuttle movement, show that an empirical approach to the problem is insufficient. See abstr. 3097/60.

DETERMINATION OF THE COURSE OF THE BRAKING FORCE ACTING ON THE SHUTTLE IN A LOOM. S. Jura and B. Plesinger. Textil 15, No. 5: 166-167 (1960). In Czech. Through BCIRA 40: 2870 (1960). (4353)

ACCURATE DETERMINATION OF THE SHUTTLE TRAJECTORY. Industrie Textile: 375-381 (May 1960). In French. Through BCIRA 40: 2869 (1960). (4354)

Methods for determining the shuttle trajectory and for controlling the picking from the curve for the distance traversed by the shuttle as a function of time are reviewed. 18 refs.

SCHEDULED CLOTH DOFFING. F. G. Ernest. Textile Inds. 124: 179-183, 187 (Oct. 1960). (4355)

A hypothetical weave room is used to illustrate how to utilize manpower resources most efficiently by the use of long term scheduling of cloth doffing. Tables.

BINDING THE PILE IN CARPET BACKINGS. H. Kimberley (Morris & Co. Ltd). Textile Mfr. 86: 358-359 (Sept. 1960). (4356)

Pointers on the timing and setting of Wilton looms weaving patterns in order to overcome the problem of defective pile binding. Diagrs.

VERDOL JACQUARD MACHINE FOR DOUBLE CARPET LOOMS. H. Schieblich and W. Beck. Melliand Textilber. 41, No. 6: 695-697 (1960). In German. Through BCIRA 40: 2871 (1960). (4357)

The special jacquard machine, with a new vertical-needle device and rotating cylinder motion, was developed for weaving double carpets on double carpet looms. The drive, the movement of the needle bridge, the adjustable needle board, and the device for changing the paper cards are described.

CONVERSION TABLE FOR REEDS ACCORDING TO NUMBER OF DENTS FOR RAYON, SILK, AND COTTON. C. Dietz. Melliand Textilber. 41, No. 7: 832 (1960). In German. Through BCIRA 40: 3161 (1960). (4358)

SOME CONSIDERATIONS ON CALCULATIONS OF EFFICIENCY OF LOOM SHED IN TEXTILE MILLS. R. M. Nanavati (Baroda Spinning & Weaving Mills Ltd). Indian Textile J. 70: 609-610 (Aug. 1960). (4359)

JET LOOMS. PART 3. TEST RUNNING OF AN EXPERIMENTAL JET LOOM. T. Ishida, M. Uno, K. Yamaki, S. Kimura, and T. Niimi. J. Textile Machy. Soc. Japan 13, No. 6: 420-425 (1960). In Japanese (English summary). Through BCIRA 40: 2867 (1960). (4360)

The best condition for weaving plain cloth, 120 cm wide, 42/2 cotton warp and weft, was 120 picks per min.

Knitting C3

KNITTING EFFICIENCY. K. Mamnicki-Manson. Hosiery Trade J. 67: 101-102 (Sept. 1960). (4361)

A case study on faulty fabrics due to excessive press-offs is presented to illustrate how a time study can locate causes of inefficiency.

RACKING PRINCIPLE ON CIRCULAR SWEATER-STRIP MACHINERY. J. B. Lancashire. Knitted Outerwear Times 29: 11, 29, 31 (Oct. 24, 1960). (4362)

LIPANIT MULTIFEEDER DOUBLE CYLINDER MACHINE. Mayer & Cie. Hosiery Trade J. 67: 90-91 (Sept. 1960). (4363)

The Lipanit machine is exceptional in that it is a single purpose model, its function being to knit body lengths of plain stockinette fabric with 1/1 ribber border incorporating a tubular welt. The superimposed needle cylinders are 30" in diameter and there are 28 knitting feeders. Photos.

LACE ON MODERN RASCHEL MACHINES. PART 7. CONVERTING DESIGNS TO POINT PAPER. B. Wheatley (Nottingham & District Tech. Coll.). Man-Made Textiles 37: 66-67, 69 (Sept. 1960). (4364)

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 67: 103-105 (Sept. 1960). (4365)

Among the topics discussed are: MVA power flat bar machine for collars and rib trimmings (Walter Weiffenbach Textilmaschinenfabrik) and the Universal shog attachment for displacing the needle bed on the Suprafix flat bar striping machine (Universal Maschinenfabrik GmbH). Photos, diagrs.

MACQUEEN CONSTANT TORQUE TENSION CONTROLS. Hosiery Trade J. 67: 125-127 (Sept. 1960). (4366)

The design requirements of ideal tension controls are noted, and the theory and characteristics of the Macqueen controls for seamless hosiery and full-fashioned outerwear are described. Photographs illustrating the manufacture of the controls are included. Photos, diagrs, graphs.

PRODUCTION OF A UNIFORM TO-AND-FRO MOVEMENT FOR DRIVING THE WARP KNITTING DEVICE OF FLAT KNITTING MACHINES. L. Heeg. Faserforsch. u. Textiltech. 11, No. 6: 255-267 (1960). In German. Through BCIRA 40: 3165 (1960). (4367)

INFLUENCE OF TWIST IN NYLON AND PERLON YARNS ON HOSIERY PROPERTIES. Hosiery Trade J. 67: 94-95 (Sept. 1960). (4368)

Results of an investigation carried out by a German engineer on the influence of twist in nylon and Perlon yarns upon such factors as elasticity, appearance, and utility of stocking fabrics are summarized. He concluded that twist in such yarns did not have the influence it was often credited with, and that factors such as the shape of the stitch and the heat setting of it, together with the relationships between yarn count and gage and wales and courses per unit area, are much more important. It was, however, possible to prove that a highly twisted nylon or Perlon yarn produces a more even loop structure, as well as reducing the propensity of the yarn to snag.

KNITTING, DYEING, AND FINISHING HALF HOSE MADE WITH ACRILAN ACRYLIC FIBER OR BLENDS OF ACRILAN WITH OTHER FIBERS. Chemstrand Corp., Decatur, Ala. Oct. 1960. 24 p. Bull. No. AP-13 (revised). (4369)

ATTACHMENT FOR CUSHION SOLE DRESS SOCKS. Powell Knitting Co. Textile Inds. 124: 209, 215 (Oct. 1960). (4370)

The attachment is applicable to any double cylinder rib knitting machine.

BOEHRINGER FULL-FASHIONED HOSIERY MACHINES. Hosiery Trade J. 67: 100-101 (Sept. 1960). (4371)

An automatic yarn fixing and burning device for the Boehringer 40-section machine is described. Photos.

CURTAIN MATERIAL PRODUCTION ON RASCHEL MACHINES. Textile Weekly 60 (2): 750, 753 (Sept. 30, 1960). (4372)

The production of plain and patterned marquisettes on Mayer raschel machines is discussed. Typical examples of patterned curtains are included. Photo, diagrs.

NYLON WARP KNITTED FABRICS. Brit. Nylon Spinners Ltd. Textile Merc. 143: 345, 355 (Sept. 9, 1960). (4373)

Recommendations for warping and knitting are given.

DESIGN AND CONSTRUCTION TRENDS IN MEN'S HOSE. W. E. Shinn. Knitter 24: 31-39 (Oct. 1960). (4374)

Fabrics C4

FABRIC DRAPE AND HANDLE. D. N. E. Cooper (Courtaulds Ltd). Textile Weekly 60 (2): 699 (Sept. 23, 1960). (4375)

The mechanics of small deformations in fabrics, with special reference to bending or stiffness, and its relationship to fabric structure and fiber and yarn properties are discussed.

NET CLOTHS. German Standards Comm. Melliand Textilber. 41, No. 6: 702-703 (1960). In German. Through BCIRA 40: 2966 (1960). (4376)

DIN 61250 explains the terms net cloth and net yarn and specifies the yarn fineness, mesh width, length and width of the cloth, and items to be included in the description of a net cloth.

MANUFACTURE OF PILE FABRIC AND VELVET. P. Pinchetti. Notiziario 9, No. 4: 61-65 (1959); 10, No. 1: 59-63 (1960). In Italian. Through BCIRA 40: 3170 (1960). (4377)

GRAU WARP KNITTING SYSTEM FOR PILE FABRICS. Donaldson Bros. Man-Made Textiles 37: 54-55 (Sept. 1960). Skinner's Silk & Rayon Record 34: 851-852 (Sept. 1960). (4378)

The fabric, suitable for use in overcoats or carpets, is produced on a modified warp knitting machine, but the pile on the face of the cloth is neither twisted nor spun. A sliver or card web is fed into the machine and is locked into the structure by the warp knitting process. Photos, diagrs.

BURLING AND MENDING PLAIN MOHAIR TROPICALS. B. Shackleton. Textile Recorder 78: 51-52 (Oct. 1960). (4379)

Practical suggestions for repairing faults in plain mohair tropical fabrics.

PERCENTAGE OF SECONDS IN WEAVING. A. Valota. Industrie Textile: 359-360 (May 1960). In French. Through BCIRA 40: 2875 (1960). (4380)

A statistical method is used to calculate the number of defects per cloth piece (nylon).

MATHEMATICAL CONTRIBUTION TO THE FORMATION OF WEAVES. T. Broggi. Riv. Tessile 36, No. 5: 461-464 (1960). In Italian. Through BCIRA 40: 3166 (1960). (4381)

A general formula is given for calculating basic weaves (taffeta, satin, twill) and examples are given of individual applications of this formula.

OBSERVATIONS ON THE USE OF ACETATE RAYON AS WEFT YARN. D. Binda. Notiziario 9, No. 4: 39-42 (1959). In Italian. Through BCIRA 40: 3167 (1960). (4382)

Technological, chemical, and physical properties of acetate rayon (fiber and yarn) are examined and it is concluded that it is possible to use it for the production of any type of fabric.

DESIGN IN WOVEN STRUCTURE. PART 96. FIGURING WITH BOTH WARP AND WEFT. D. C. Snowden. Wool Rev. 34: 21-22 (Oct. 1960). (4383)

THE DESIGNER. R. Nicholson (Royal Coll. of Art). J. Textile Inst. 51: P499-P506 (Aug. 1960). (4384)

The author describes his views on the qualifications and training of a designer.

CONTRAST WEAVE IN VISCOSE SATEEN. R. Sansone. Textile Weekly 60 (2): 510 (Sept. 2, 1960). (4385)

Contrast between warp and weft yarns in viscose sateens can be obtained by making use of diagonal stripes which will catch the light at different angles. Diagrs.

DESIGNING OF PILE FABRICS. PART 10. TERRY. E. B. Berry. Textile Bull. 86: 109-116 (Sept. 1960). (4386)

Weaving techniques and calculations are covered. Diagrs.

DESIGNING OF PILE FABRICS. PART 10 (continued). DESIGNING A SPECIAL TOWEL. PART 11. RUGS. E. B. Berry. Textile Bull. 86: 63-70 (Oct. 1960). (4387)

The author concludes his discussion of terry towel design and introduces the topic of rug design with a description of the distinguishing features of various types of rugs, e.g. ingrain, oriental, Axminster, Brussels, tapestry, velvet, and Wilton. Diagrs.

PRODUCTION AND PROPERTIES OF FABRICS FROM DEDERON PROFILED FIBER/SPUN RAYON. K. Gründig. Deut. Textiltech. 10, No. 5: 235-240 (1960). In German. Through BCIRA 40: 3168 (1960). (4388)

The problem of fibers with various cross-sections is examined on dress poplins from Dederon polyamide/viscose rayon staple blends. The experiments were carried out on a large range of fiber blends and yarn twists by examining the weavability of the yarns and the properties of the fabrics. Suggestions are made as regards the Dederon type to be used, optimum blending ratio, and twist to be imparted to obtain fabrics with the desired strength, elasticity, crease-recoverability, heat retention, abrasion resistance, pilling resistance, dimensional stability, and handle.

BEHAVIOR OF PAPER DURING TENSILE STRAINING. A. E. Ranger and L. F. Hopkins (Bowater Research & Develop. Co. Ltd). Nature 187: 1097-1098 (Sept. 24, 1960). (4389)

The tensile behavior of paper is described on a basis of the predominance of fiber failure rather than interfiber bond failure. Photo, graphs, 2 refs.

CLOTH CONSTRUCTION IN RELATION TO FIBRO YARNS AND BLENDS. R. S. Greenwood (Courtaulds Ltd). Textile Weekly 60 (2): 815-820 (Oct. 7, 1960). (4390)

Cotton spun Fibro yarns and their relation to cloth construction and end-uses are discussed.

USE AND VALUE OF BLENDS FROM VISCOSE RAYON STAPLE FIBER AND COTTON. H. A. Thomas. Rayonne et Fibres Synthet. 15, No. 12: 1377-1388 (1959); 16, No. 1: 65-77 (1960). In French. Chemiefasern 10, No. 4: 250-256; No. 5: 330-334 (1960). In German. Through BCIRA 40: 2877 (1960). (4391)

Uses of spun-rayon/cotton fabrics for indoor clothing, bed- and table-linen, working clothes, and uniforms and methods for testing and comparing the wear properties of the fabrics, are reviewed.

BINARY AND TERNARY FIBER MIXTURES IN THE WEAVING MILL. L. Schallat and J. Mieck. Chemiefasern 10, No. 6: 382-393, 404 (1960). In German. Through BCIRA 40: 2876 (1960). (4392)

Results obtained by examining fabrics from binary and ternary fiber blends and making wear tests on these fabrics are reported to show that the admixture of man-made fibers improves in all cases the quality of the products. Three-fiber blends give better results than two-fiber blends. 15 refs.

RELATIONSHIP BETWEEN FIBER PROPERTIES AND FABRIC WRINKLE RECOVERY. W. W. Daniels (E. I. du Pont de Nemours & Co.). Textile Research J. 30: 656-661 (Sept. 1960). (4393)

This research was undertaken to obtain a better understanding of the role of fiber properties in determining fabric wrinkle recovery. The tensile recoveries under load, effective frictional restraints, and qualitative fabric-recovery features are presented. The results reported indicate that the predominant fiber properties controlling fabric recovery can be determined without recourse to a complete mathematical treatment. Consideration of a simple, idealized model showed inter-fiber friction to be a property which must be considered in order to obtain even a qualitative description of the mechanism of fabric recovery from deformations involving small strains. Graphs, tables, 10 refs.

LIGHT TENDERING OF TENTAGE FABRICS. H. Tramnitz. Spinner u. Weber 78, No. 6: 398-403 (1960). In German. Through BCIRA 40: 2916 (1960). (4394)

The theory of chemical tendering, damages on textiles due to light, possibilities of detecting these damages, chemical and microscopical tests, and possibilities of preventing light damages are reviewed, and it is concluded that premature wear (due to photochemical degradation of cellulose) of camping fabrics, tents, sun-shades, deck-chairs and other textiles exposed to direct sunlight can be prevented or reduced by (1) the use of sodium chlorite as bleaching agent; (2) mercerization to improve the lightfastness; (3) careful choice of dyes and elimination of yellow and orange dyes. 45 refs.

BACKING DEFORMATION DURING TUFTING. Man-Made Textiles 37: 60 (Sept. 1960). (4395)

The main causes of dimensional instability in tufted carpets and methods for controlling variations are briefly discussed. Photo, diagr.

TUFTING CARPET YARNS OF SPUN NYLON. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 2 p. Bull. N-134 (replaces Bull. N-111). Free. (4396)

Suggestions for improving quality and efficiency when tufting nylon carpet yarns.

ELECTRIC BLANKETS. Consumer Repts. 25: 584-587 (Nov. 1960). (4397)

32 single-control, double-bed models were tested for control performance and safety. Blankets with a high percentage of rayon posed a flammability hazard and most of the blankets had inadequately protected connector plugs. Photos.

COMPRESSIONAL RESILIENCE OF BLANKETS AND CARDED-FIBER MASSES. PART 1. PRESSURE-DEFORMATION CURVES. M. Matsushima and T. Matsuo. J. Soc. Textile Cellulose Inds. Japan 16, No. 2: 105-109 (1960). In Japanese (English summary). Through BCIRA 40: 2967 (1960). (4398)

The curves obtained, using an Instron tester, are fitted by the equation $P = Be^{a_0 x}$, where P = pressure, x = deformation, and a_0 and B are constants. The pressure-deformation equations were derived from a model consisting of m(x) springs in series and n(x) serial springs in parallel.

SOME PRINCIPLES OF NONWOVEN FABRICS. S. Backer and D. R. Petterson (Mass. Inst. Technol.). Textile Research J. 30: 704-711 (Sept. 1960). (4399)

The mechanical behavior of woven and nonwoven fabrics is compared, and the principal mechanisms by which woven cloths deform and recover in manufacture and in end usage are outlined. An attempt is made to formulate a parallel sequence of events in the distortion process for nonwovens and to show how these actions influence the ability of nonwovens to fit smoothly on three-dimensionally curved surfaces, to hang and drape freely, and to recover from bends and tensile extension. Some results of a research program recently conducted on nonwovens are presented. This study is related to the directional tensile behavior of nonwoven fabrics and demonstrates how knowledge of fiber properties and web structure can be used effectively to predict web behavior. Photomicrographs, diagr, graphs, 3 refs.

NEW KNITTING DEVELOPMENTS FROM EAST GERMANY. VEB Tüllmaschinenbau. Hosiery Trade J. 67: 81-83 (Sept. 1960). (4400)

Features of the Malimo machine (for producing fabric without shedding or picking by the use of an additional set of threads which knit a 1/1 warp or half-tricot structure, by means of which the warp and weft threads are bound into the fabric without intersection), the Malipol warp knitting type machine (for carpetlike fabrics), and the Maliwatt machine (for the manufacture of nonwoven fabric by the overstitching of fiber fleeces) are noted. Photos, diagr.

BOYS' JEANS MADE FROM DENIMS VARYING IN WEIGHT AND FIBER CONTENT. S. Davison and L. O. Lund. J. Home Econ. 52: 673-677 (Oct. 1960). (4401)

288 jeans made from three weights of denim and varied fiber contents were analyzed in the laboratory and tested for laundering performance. Graphs, tables.

SCIENCE OF CLOTHING HYGIENE: PAST AND PRESENT. E. T. Renbourn (Clothing & Equip. Physiological Estab.). J. Textile Inst. 51: P469-P485 (Aug. 1960). (4402)

MATERIALS OF FASHION. J. Ironside (Royal Coll. of Art). J. Textile Inst. 51: P507-P514 (Aug. 1960). (4403)

The factors influencing fashion are discussed. 3 refs.

PSYCHOLOGY OF TEXTILES. E. Dichter (Inst. for Motivational Research). J. Textile Inst. 51: P486-P498 (Aug. 1960). (4404)

STIFFNESS OF WOVEN TEXTILES. D. N. E. Cooper (Courtaulds Ltd). J. Textile Inst. 51: T317-T335 (Aug. 1960). (4405)

Factors affecting the resistance to bending offered by fibers, yarns and woven fabrics are considered. Fiber stiffness depends upon fiber material, shape of cross-section and denier. Yarn stiffness is usually controlled by fiber stiffness, being little affected by twist under normal conditions of lubrication. When yarns are woven into fabrics, however, a wide range of stiffness is possible according to the extent to which free movement of fibers is inhibited by fabric structure or finish. The stiffness of a fabric may vary with the direction of bending in different ways, but, for most purposes, measurements along warp, weft, and one other direction are sufficient to describe it. Diagrs, tables, 23 refs.

WEFT KNITTED TERRY FABRICS. J. B. Lancashire. Hosiery Trade J. 67: 84-86 (Sept. 1960). (4406)

Modern methods of knitting single and double faced terry fabrics are briefly reviewed. Diagrs.

LOOMFIXER AND HIS JOB. PART 21. W. Westbrook. Textile Bull. 86: 105-106 (Sept. 1960). (4407)

A shop-made terry cloth cutter for use at the loom is described.

FINISHING D

DEVELOPMENTS OF MODERN METHODS FOR FINISHING SYNTHETIC FIBERS. H. U. Schmidlin. Tex 19, No. 5: 261-270 (1960). In Dutch. Through BCIRA 40: 2891 (1960). (4408)

The development and properties of synthetic fibers and modern methods of thermofixing and dyeing are reviewed. 26 refs.

WOVEN CARPET. PART 14. FINISHING. H. Osswald. Melliand Textilber. 41, No. 7: 815-818 (1960). In German. Through BCIRA 40: 3246 (1960). (4409)

Aftertreatment of carpets: e.g. elimination of defects and finishing (presteaming, preshearing, pile-opening, shearing, glueing of the back, etc.) is discussed. For Part 13 see abstr. 3507/60.

DYEING AND FINISHING OF DACRON POLYESTER STAPLE AND TOW. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 27 p. Bull. D-123 (replaces Bull. D-73 (Staple, Yarn, and Fabric Information only), D-79, D-88, D-105, and NP-4). Free. (4410)

DYEING AND FINISHING OF DACRON STAPLE IN COMBINATION FABRICS NYLON, ORLON, SILK. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 19 p. Bull. D-126 (replaces Bull. D-73, Staple, Yarn, and Fabric Information only). Free. (4411)

DYEING AND FINISHING OF DACRON STAPLE WITH CELLULOSIC FIBERS. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 19 p. Bull. D-124 (replaces Bull. D-73 (Staple, Yarn, and Fabric Information only), D-79, D-88, D-105, and NP-4). Free. (4412)

DYEING AND FINISHING OF DACRON STAPLE WITH WOOL. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 15 p. Bull. D-125 (replaces Bull. D-73 (Staple, Yarn, and Fabric Information only) and NP-4). Free. (4413)

FRICTIONAL COEFFICIENT OF TEXTILE FINISHING AGENTS. PART 1. EFFECT OF CHEMICAL STRUCTURE OF CATIONIC SURFACE-ACTIVE AGENTS (ALKYL AMINE SALTS) ON THE FRICTIONAL COEFFICIENT OF TERYLENE. K. Takahashi, M. Koshimura, A. Tawara, and S. Nishikawa. J. Textile Machy. Soc. Japan 13, No. 6: 435-440 (1960). In Japanese (English summary). Through BCIRA 40: 2941 (1960). (4414)

Measurements of coefficient of friction of Terylene fibers were made by a method described by Röder, and the results are discussed in relation to the chemical structure of the finishing agents.

DEVELOPMENT ASPECTS OF MODERN WORKING METHODS DURING FINISHING OF SYNTHETIC FIBERS. PART 2. H. U. Schmidlin. Tex 19, No. 6: 348-357 (1960). In Dutch. Through BCIRA 40: 3223 (1960). (4415)

In this review, reference is made in particular to the Temtex Polyfix machine, the principles of the thermal-shock process for fixing polyester materials, the Temtex pad-fix infrared continuous dyeing installation, the Peter high-temperature pressure steamer, and the present state of continuous dyeing of piece goods from manmade fibers (see also abstr. 3969/60).

PRINTING AND FINISHING FABRIC OF DACRON STAPLE. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 12 p. Bull. D-128 (replaces Bull. D-73, Staple, Yarn, and Fabric Information only). Free. (4416)

Chemical processes D1

ELECTRON MICROSCOPIC INVESTIGATION OF THE DEGUMMING OF SILK FABRICS. M. Minagawa. J. Soc. Textile Cellulose Inds. Japan 16, No. 6: 507-513 (1960). In Japanese (English summary). Through BCIRA 40: 2881 (1960). (4417)

(Bacterial) enzyme degumming (pH 6-8, 40-45° C) is a 1 hr treatment compared with 2-3 days for the fermentation process. It does not discolor the fiber and electron microscopic examination of the fiber surface indicates that it is better and more complete than with papain and trypsin. It differs from degumming with Marseilles soap, sodium carbonate, and ammonia, selectively decomposing the sericin and not affecting the fibroin.

SIGNIFICANCE OF CAPILLARY PROCESSES IN WET PROCESSING OF FABRICS. A. N. Braslavskii and A. M. Motorin. Zhur. Priklad. Khim. 33, No. 6: 1391-1396 (1960). In Russian. Through BCIRA 40: 3198 (1960). (4418)

A relationship was established between the capillary-porous structure of a given fabric and the kinetics of liquid absorption during wet treatments. Taking into account the fact that, during the wet treatment, not only the nature of the liquid but also the capillary-porous structure of the fabric is changed (and, consequently, the conditions for the penetration of liquids), it is necessary to determine systematically the capillary-porous structure of the fabrics and the absorption kinetics of the liquid during various stages of the technological process.

TREATMENT OF CARPETS IN FINISHING. A. Crossland. Textile Recorder 78: 76-78 (Sept. 1960). (4419)

The various operations necessary to prepare loom state carpet for the market are described, and faults commonly encountered at this stage, and their causes, are discussed. Photos.

BOOK CLOTH FINISHING. Columbia Mills. Textile Inds. 124: 168-171, 175-177 (Oct. 1960). (4420)

The sequence of operations involved in the finishing of fabrics for book binding is described, and a glossary of book cloth finishing terms is included. Photos, diagrs.

ALKYLATION OF CELLULOSE AND ITS IMPORTANCE FOR TEXTILE FINISHING. U. Einsele. Melliand Textilber. 41, No. 6: 721-729 (1960). In German. Through BCIRA 40: 2913 (1960). (4421)

In this review, the author discusses alkylation, of cellulose by using halide, onium, ethyleneimine, epoxy, unsaturated, or methylol compounds, and diazomethane, sulfones, and lactones. The alkylation is generally carried out in a manner similar to the etherification of low-molecular alcohols. Of practical interest is the use of some onium and ethyleneimine compounds for waterproofing, of some methylol and epoxy compounds for creaseproofing, and of vinylsulfone compounds or their derivatives in dye chemistry. 35 refs.

ALKALI TREATMENT OF POLYESTER FIBERS. S. Kuriyama and M. Korematsu. J. Soc. Textile Cellulose Inds. Japan 16, No. 2: 110-114 (1960). In Japanese (English summary). Through BCIRA 40: 2914 (1960). (4422)

Rate constants for different polyesters (e.g. from β-hydroxyethoxy aromatic acids) were calculated.

DODECYLBENZENE SULFONATES. (ALKYL ARYL SULFONATES): THEIR IMPORTANCE IN THE TEXTILE INDUSTRY. J. C. Espector. Tintoreria Ind. No. 45: 411-418 (Aug. 1959); No. 46: 473-484 (Sept. 1959); No. 47: 515-528 (Oct. 1959). In Spanish. Through BCIRA 40: 2880 (1960). (4423)

In this review, the author discusses the structure, classification, terminology, raw materials, and finished products; Spanish production (with statistical data); general and surface-active properties; the effect of concentrations used on the results obtained in various applications; uses of the products in the textile industry.

IMPROVING THE EFFICIENCY OF WASHING AND IMPREGNATING MACHINES. A. J. Hall. Textile Merc. 143: 350-351, 360 (Sept. 9, 1960). (4424)

Methods and devices for improving efficiency in wet processing by reducing fabric tension and improving liquor circulation are described and illustrated. Photos, diagrs.

BEHAVIOR TO CHLORINATION AND IRONING OF FABRICS TREATED WITH UREA-FORMALDEHYDE RESINS. S. Pierret and R. Bellaton. Bull. Inst. Textile France No. 86: 137-144 (Jan./Feb. 1960). In French. Through BCIRA 40: 2985 (1960). (4425)

Experiments have shown that yellowing of urea-formaldehyde finished cotton fabrics, due to the formation of chloramines during hypochlorite bleaching and their decomposition and chlorine liberation by the action of heat, can be limited by subjecting the fabric to antichlorine treatments. The best antichlorine agent (apart from sodium borohydride which is too expensive for practical purposes) is sodium bisulfite.

NEW AIDS IN COTTON AND RAYON FINISHING. A. J. Hall. Textile Recorder 78: 79-82 (Sept. 1960). (4426)

The modification of cotton by carbamoylethylation and cyanoethylation and the development of new non-chlorine retentive crease and shrink resistant finishes for cellulose (e.g. dimethylol ethylene urea and related reagents, epoxy resins, polyhydroxyl formals and APO) are discussed with appropriate literature references.

STUDIES ON THE RESIN FINISHING OF CELLULOSE FIBERS. PART 1. REACTION OF VARIOUS RESINS ON CELLULOSE FIBERS. PART 2. RESIN FINISHING OF VISCOSE RAYON FIBERS OF VARIOUS DENIERS. M. Yajima and K. Arakawa. J. Soc. Textile Cellulose Inds. Japan 16, No. 6: 500-506 (1960). In Japanese (English summary). Through BCIRA 40: 2911 (1960). (4427)

Part 1. Urea-formaldehyde, melamine-formaldehyde, and ethylene-urea resins were examined as finishes for viscose rayon: the melamine resin was most suitable, the ethylene-urea the least. Part 2. Finishing with melamine resin was examined: as the denier increases, the resin retention increases, the strength decreases, and the water-imbibition decreases.

MEASURING TECHNIQUE FOR FLUORESCENT SUBSTANCES. PART 1. A. Kling and J. Kurz. Melliand Textilber. 41, No. 3: 339-341 (1960). In German. Through BCIRA 40: 2882 (1960). (4428)

The possibilities of measuring spectrophotometrically the concentration of optical brightness in solution and on the substrate are reviewed, with reference to the devices used. An additional device developed by the authors for a commercially available apparatus makes it possible to determine the emission spectra of applied optical bleaching agents in dependence of the wavelength. The device and results will be described in Part 2.

IMPROVEMENTS IN CHLORITE BLEACHING. R. H. Parkinson (Lace Research Assoc.). (Letter to the editor). J. Soc. Dyers Colourists 76: 552 (Sept. 1960). (4429)

The use of magnesium dihydrogen phosphate to acidify the bath results in reduced chlorite loss and corrosion.

PROBLEM OF COLD BLEACHING. W. Hundt. Textil-Praxis 15, No. 6: 624-626 (1960). In German. Through BCIRA 40: 3199 (1960). (4430)

Methods of cold bleaching are reviewed and their advantages and disadvantages discussed. The modern hot-bleaching methods are shown to be superior as regards productivity, time economy, and qualitative effects.

WEAR OF CLOTHES IN LAUNDERING. EFFECT OF WASHING AGENTS BASED ON PERSALTS ON THE BEHAVIOR OF CLOTHES SUBJECTED TO NUMEROUS LAUNDERINGS. A. Parisot. Bull. Inst. Textile France No. 86: 127-136 (Jan./Feb. 1960). In French. Through BCIRA 40: 2984 (1960). (4431)

Laundering of cotton fabrics by means of washing agents containing sodium perborate as bleaching compound leads to changes in the mechanical properties of the fabric, similar to those caused by sodium hypochlorite solutions. Therefore, it may be possible to control the wear of clothes washed and bleached by means of sodium perborate in the same manner as in the case of hypochlorite. The mechanical properties of the fabric (especially the bursting strength) vary as a function of the D. P., irrespective of the laundering conditions; the wet strength of the fabric becomes equal to its strength in the dry state when the D. P. reaches about 600.

ANTISTATIC AGENTS IN THE TEXTILE INDUSTRY. A. E. Henshall (Imp. Chem. Inds. Ltd). J. Soc. Dyers Colourists 76: 525-535 (Sept. 1960). (4432)

The causes of static are discussed and appropriate counter-measures described. Surface active agents are the most convenient to use and possess the greatest all-round utility in the textile industry. The preferred properties of antistatic agents are given and suitable test methods discussed. Antistatic agents reduce the electrical resistance of fibers and are hygroscopic, but cannot be evaluated solely on the basis of these properties. It is probable that the nature and orientation of the hydrophilic groups of the agents on the fiber determine the antistatic effect, and that antistatic agents function not only because they are hygroscopic and reduce fiber resistance, but because they are orientated in a specific manner on the fiber surface. The "aging" of antistatic agents appears to be due to diffusion into the fiber, resulting in a reduced surface concentration and a correspondingly diminished antistatic effect; it is accompanied by an increase in the electrical surface resistance of the fiber. Antistatic agents reduce fiber resistance even at elevated temperatures and low atmospheric humidities. Photos, graphs, tables, 14 refs.

INFLUENCE OF VARIOUS SURFACTANTS ON THE PHYSICAL PROPERTIES OF FIBERS. PART 3. EFFECTS OF SURFACTANTS ON THE ELECTROSTATIC CHARGES ON WOOL FIBERS. K. Fujii, T. Kamijo, and A. Nakatsugawa. J. Soc. Textile Cellulose Inds. Japan 16, No. 2: 124-127 (1960). In Japanese (English summary). Through BCIRA 40: 2946 (1960). (4433)

TABLE OF TEXTILE ASSISTANTS. St. Jost. Textil-Rundschau 15, No. 6: 318-326 (1960). In German. Through BCIRA 40: 3213 (1960). (4434)

The list of textile assistants (abstr. 3991/60) is supplemented by the enumeration of wetting agents, stripping agents, printing assistants, complex formers, softening agents, and handle-imparting finishes.

FABRIC STRUCTURE AND WASH-AND-WEAR. E. J. Stavrakas and M. M. Platt (Fabric Research Labs.). Textile Inds. 124: 141-160 (Oct. 1960). (4435)

This study on the influence of fabric structure on tear strength of resin-treated cotton fabrics involved the following areas of investigation: an analytical determination of the causes of loss in tear strength due to resinating; a theoretical and empirical determination of modifications in yarn and fabric properties required to obtain improved tear strength; design, production, and evaluation of experimental fabrics to assess the validity of the preceding determination; and the resin treatment of experimental fabrics and comparison of tear characteristics with their nonresinated counterparts. Graphs, tables, 3 refs.

CHLORINE RETENTION IN THE MINIMUM-IRON FINISHING OF COTTON FABRICS. W. Ruemens, N. Goetz, and Z. Zeidler (Badische Anilin & Soda-Fabrik AG). Am. Dyestuff Reptr. 49: P752-P763 (Oct. 3, 1960). (4436)

The reactant-type resins dimethylol ethylene urea, dimethylol dihydroxyethylene urea, a substituted dimethylol triazone, and mixtures of these compounds were subjected to a chlorine test according to AATCC Tentative Test Method 69-1952. It is shown that the chlorine resistance of reactant-type resins depends on the type and quantity of the catalyst and also on the curing conditions. Molecular models are used to demonstrate the varying behavior of dimethylol ethylene urea and dimethylol dihydroxy-ethylene urea towards treatment with chlorine. The results of repeated tests with chlorine (up to 10 times) are of particular interest. The dry and wet crease recovery angles, the tensile strength, and other properties of interest in evaluating "minimum-iron" finishes are also discussed. Graphs, tables, 15 refs.

LIGHTFASTNESS PROPERTIES OF OPTICAL BLEACHING AGENTS. PART 2. R. Grünwald. Deut. Textiltech. 10, No. 5: 265-266 (1960). In German. Through BCIRA 40: 3203 (1960). (4437)

A previous investigation by H. Fritzsch (abstr. 1969/60) on cotton, viscose rayon, and Dederon (polyamide)/cotton fabrics is supplemented by results obtained in lightfastness tests on optically-bleached Dederon, viscose rayon and spun-rayon fabrics (the last also creaseproofed). The products examined (29) were applied to these fabrics in the laboratory at pH 4, 7, and 10.

DE LAVAL CONTINUOUS SOLVENT SCOURING PROCESS FOR RAW WOOL. Textile Recorder 78: 92-93 (Sept. 1960). (4438)

The De Laval process utilizes paraffin as the scouring agent in place of more volatile petroleum distillates with relatively low flash points and high vapor pressures. The solvent used in the De Laval process has a flash point of 45°-50° C and a low vapor pressure, and it is claimed that the process effectively cleans the wool ready for carding, without any subsequent water scour being necessary. The processing sequence is described, and its other advantages are cited. Photo, diagr.

MODERN MERCERIZATION PROCESSES. R. Weber. Melliand Textilber. 41, No. 7: 868-870 (1960). In German. Through BCIRA 40: 3235 (1960). (4439)

The construction and mechanism of the Goller chainless mercerization machine are described and its advantages over chain-mercerization discussed.

BEHAVIOR OF HOMOLOGOUS SERIES OF SURFACE ACTIVE COMPOUNDS IN DRYCLEANING. PART 2. DIRT-SUSPENDING POWER AND GRAYING. H. Wedell. Melliand Textilber. 41, No. 7: 845-848 (1960). In German. Through BCIRA 40: 3331 (1960). (4440)

White fabrics and artificially-soiled test pieces of the same fiber type were treated together in tetrachlorethylene solutions of various surface active substances (e.g. triethanolamine soaps, monoethanolamine/alkylbenzenesulfonate, sodium succinic acid dialkylestersulfonate, alkylpolyglycolether, saccharose fatty-acid ester). Under the given test conditions, the least graying and best brightening effects were obtained with alkylbenzenesulfonates and succinic acid dialkylestersulfonates containing 16-18 carbon atoms in the anion.

FLAMEPROOFING FINISH MOFOS AND ITS PROBLEMS. J. Hrboticky. Textil 15: 228-230 (1960). In Czech. Through BCIRA 40: 3248 (1960). (4441)

The principle of the finishing process is based on the esterification of cellulose with phosphoric acid (in the form of secondary ammonium phosphate) in the presence of urea. It is a semi-permanent finish and can be applied to cotton, linen, and viscose rayon fabrics.

CONTRIBUTIONS TO THE FLAMEPROOFING OF CELLULOSIC TEXTILES. PART 3. STUDIES OF THE REACTION BETWEEN CHLORMETHYLPHOSPHONIC ACID/UREA MIXTURES AND CELLULOSE. R. Schiffner and G. Lange. Faserforsch. u. Textiltech. 11, No. 6: 276-283 (1960). In German. Through BCIRA 40: 3249 (1960). (4442)

Processes taking place during heating of chlormethylphosphonic acid with urea and the effects on cellulosic fabric of urea alone and together with chlormethylphosphonic (CMP) acid are studied to obtain information on the chemistry of the flameproofing method with CMP. Hydrolytic phenomena and differences in weight increases of the treated fabrics during rinsing are also investigated and the results interpreted.

STUDIES ON THE STIFFNESS OF SILK FIBERS. PART 4. EFFECTS OF SOFTNESS UPON RAW SILK, DEGUMMED SILK, AND SOME OTHER FIBERS. H. Takagi and W. Tsuji. J. Soc. Textile Cellulose Inds. Japan 16, No. 2: 115-119 (1960). In Japanese (English summary). Through BCIRA 40: 2943 (1960). (4443)

The softening effect on raw silk of nonionic agents is small, but of cationic and anionic agents large. With viscose rayon and heat-treated polyvinyl alcohol fiber, softeners cause a lowering of interfiber friction.

STUDIES ON THE STIFFNESS OF SILK FIBERS. PART 7. SOFTENING OF RAW SILK BY UREA. PART 8. EFFECTS OF UREA ON SERICIN. H. Takagi. J. Soc. Textile Cellulose Inds. Japan 16, No. 5: 366-372 (1960). In Japanese (English summary). Through BCIRA 40: 2944 (1960). (4444)

The interaction between urea and sericin is almost the same as that between water and sericin. Comparisons are made with surface-active agents. The interaction between urea or cationic agents and raw silk is not simply surface chemical adsorption. The bonding force of cationic agents and sericin is strong, that of urea weak. A suitable amount of humidity is necessary for softening of raw silk by urea.

STUDIES ON THE STIFFNESS OF SILK FIBERS. PART 9. SOFTENING OF RAW SILK BY THE MIXTURE OF UREA AND OTHER AGENTS. H. Takagi. J. Soc. Textile Cellulose Inds. Japan 16, No. 6: 496-499 (1960). In Japanese (English summary). Through BCIRA 40: 2945 (1960). (4445)

A mixture of urea and higher alcohol (emulsified with the sulfuric acid ester) has a comparatively strong effect; so has a mixture of urea and potassium thiocyanide. A mixture of urea and sodium cyclohexylsulfamate has a fairly strong softening effect, made stronger when higher alcohol is added.

PHYSICAL PROPERTIES OF COATED FABRICS. V. K. Hewinson. Rubber J. 139, No. 3: 82, 84-85 (1960). Through BCIRA 40: 3323 (1960). (4446)

Factors influencing the tear strength and resin/cloth adhesion of coated nylon fabrics are discussed. Particular consideration is given to the effects of cloth construction and coating penetration. The possibilities of using textured yarns to improve adhesion are mentioned.

THE NEW BACKWASHING MACHINE. H. Needham. Wool Rev. 34: 22, 25 (Oct. 1960). (4447)

The features of various backwashing machines are briefly described.

Dyeing and printing D2

STUDIES ON INTERACTION BETWEEN POLYMER SOLUTION AND DYESTUFF. PART 1. THE EFFECTS OF POLYMER ELECTROLYTE SOLUTIONS ON THE ABSORPTION SPECTRA OF BASIC DYESTUFFS. Y. Suda. Bull. Textile Research Inst. (Japan) No. 53: 41-48 (1960). In Japanese (English summary). Through BCIRA 40: 3224 (1960). (4448)

Metachromatic phenomena were studied with sodium alginate and sodium carboxymethylcellulose; and Methylene Blue, Toluidine Blue, and Rhodamine 6 G.

NEW DEVELOPMENTS IN THE FIELD OF WATER INSOLUBLE AZO DYES PRODUCED BY COUPLING ON THE FIBER. W. Kirst. Melliand Textilber. 41, No. 7: 851-853 (1960). In German. Through BCIRA 40: 3210 (1960). (4449)

Attempts to produce on the fiber green, water-insoluble azo dyes are described and studies on metal complexes of water-insoluble azo dyes are reported. 17 refs.

DYEING PROPERTIES OF A TRIAZOLE DERIVATIVE OF CONGO RED. K. Nishida (Univ. Agri. & Technol., Tokyo). (Letter to the editor). J. Soc. Dyers Colourists 76: 551-552 (Sept. 1960). (4450)

NOTE ON THE RELATIONSHIP BETWEEN THE MOLECULAR WEIGHT OF A DYE AND ITS ENTROPY OF DYEING. K. Odajima (Toho Rayon Co. Ltd). (Letter to the editor). J. Soc. Dyers Colourists 76: 550-551 (Sept. 1960). (4451)

WOOL-DYNEL PROCESSING. J. P. Stevens & Co. Textile World 110: 86-88 (Oct. 1960). (4452)

Steps involved in a one-bath dyeing process are outlined. Photos.

NEW VAT DYES SUITABLE FOR STUDENT EXPERIMENTS. R. Shapiro, G. Sugerman, H. Rachbach, and H. Wagreich (City Coll. of N.Y.). J. Chem. Educ. 37: 526-529 (Oct. 1960). (4453)

This paper reports the preparation of new vat-dye mixtures which can be made rapidly at room temperature using relatively simple equipment. At least 7 dyes are ideally suited for student laboratory preparations in enriching the teaching of vat-dyeing. They may be prepared readily and safely at room temperature in one laboratory period, utilizing commonly available apparatus. Each student may prepare a different mixture, thereby permitting a comparison of the different colors on cloth. 15 refs.

DYES OF THE NAVAHO INDIANS. M. Levey. J. Bradford Textile Soc.: 93-94 (1958-59). (4454)

SOME PECULIARITIES OF DIRECT COTTON DYES IN HIGH TEMPERATURE DYEING PROCEDURES. Textile Merc. 143: 385-386 (Sept. 16, 1960). (4455)

The Armfield test for ascertaining the stability of direct cotton dyes at high temperatures is described, and investigations on the causes and prevention of direct dye decomposition during high temperature dyeing are discussed.

STUDIES ON THE DYEING PROPERTIES OF ACID AZO DYES. PART 5. T. Iijima and M. Sekido. J. Soc. Textile Cellulose Inds. Japan 16, No. 5: 406-411 (1960). In Japanese (English summary). Through BCIRA 40: 2893 (1960). (4456)

The acidity of the free acids of dyes having benzene-azo-benzene and naphthalene-azo-naphthalene as the skeletal structure was studied in relation to the dyeing of protein and polyamide (nylon 6 and 66) fibers.

DYEING OF BLENDS FROM POLYESTER AND CELLULOSE FIBERS. W. Binder. Textil-Praxis 15, No. 5: 503-507 (1960). In German. Through BCIRA 40: 3228 (1960). (4457)

A survey is made of the possibilities of dyeing polyester/cellulosic fiber fabrics, with special reference to single-bath dyeing with Anthrasol dyes (light shades) and 2-bath dyeing (medium to dark shades), on jigs, winch becks, etc., and pad dyeing on the padder (light shades with Anthrasol dyes, medium and dark shades with Samaron and Indanthrene dyes). The finishing processes applicable to polyester/cotton fabrics are also outlined.

LOGWOOD PROCESSES FOR DYEING NATURAL SILKS RICH BLACK. Am. Dyewood Co. Am. Textile Reptr. 74: 33-34, 45 (Sept. 29, 1960). (4458)

Fundamentally, the logwood process consists of the precipitation of a haematein-metal complex in the fiber, but this may be accomplished in a variety of ways, and may also be combined with the formation of Prussian blue or of a number of different tannin-iron compounds. A general description of the processes is given and the principles on which they are based are indicated.

EARLY DAYS OF DYEING. PART 2. H. R. Bush. Dyer 124: 459-460 (Sept. 23, 1960). (4459)

Textile dyeing as practiced before Christ. 4 refs.

DYEING OF DACRON STAPLE AS RAWSTOCK, TOP, TOW, AND PACKAGES. E. I. du Pont de Nemours & Co., Textile Fibers Dept., Wilmington, Del. Oct. 1960. 12 p. Bull. D-127 (replaces Bull. D-73 (Staple, Yarn, and Fabric Information only), and D-88). Free. (4460)

RECENT DEVELOPMENTS IN DYEING AND PRINTING. B. C. M. Dorset. Textile Mfr. 86: 367-371, 375 (Sept. 1960). (4461)

Among the developments reviewed are: lactam leveling agents for sulfur and vat dyes on cellulose (BP 834 393); amidoamine leveling agents for basic and disperse dyes on acrylic fibers (BP 832 444); sulfinic acid reducing agents for vat printing (BP 829 936); cyclohexylamides of benzene sulfonic acids as carriers for dyeing nylon and polyester fibers (BP 831 141); Thermosol dyeing of polyester/cotton; pressure beam-dyeing machine; quaternary ammonium compounds for padding with esters of leuco vat dyes (BP 833 668).

CARRIERS DURING DYEING OF DIOLEN POLYESTER FIBERS AND THEIR BLENDS. W. Brennecke and G. Schlichtmann. Melliand Textilber. 41, No. 7: 855-859 (1960). In German. Through BCIRA 40: 3227 (1960). (4462)

Experience with commercial carriers shows that, for dyeing polyester fibers and their blends, there is no generally satisfactory carrier available at present. Properties of the carriers and their applicability in dyeing fiber flocks, combed slivers, yarns and piece goods, as well as in one- or multi-bath dyeing of mixed products are discussed.

IMPROVEMENTS IN THE COLORING OF TRIACETATE FIBER GOODS. J. A. Somers. Textile Recorder 78: 57-61 (Oct. 1960). (4463)

Improved methods of dyeing and printing using dye carriers, fiber swelling agents, and special dyeing conditions are reviewed.

DYEING TERYLENE ON A LABORATORY HIGH TEMPERATURE BEAM MACHINE. D. A. Garrett, I. E. Haden, and F. R. Smith (Imp. Chem. Inds. Ltd). Dyer 124: 405, 408-410, 413 (Sept. 9, 1960). (4464)

Results of dyeing woven, warp knit, and blend fabrics on the laboratory machine described are summarized. Photo, diagr, 2 refs.

DYEING BEHAVIOR OF DARVAN, KODEL, VEREL, CRESLAN, AND ZEFRAN. E. P. Frieser. Chemiefasern 10, No. 5: 301-305 (1960). In German. Through BCIRA 40: 2899 (1960). (4465)

The chemical constitution, producers, and behavior of these fibers to chemicals (especially dyes) are discussed, and suitable dyes are listed.

INTRODUCTION OF CHELATE BONDS INTO FIBERS. PART 9. INTRODUCTION OF CHROMIUM INTO POLYESTER UNDER PRESSURE. N. Hojo and M. Minemura. J. Soc. Textile Cellulose Inds. Japan 16, No. 2: 120-123 (1960). In Japanese (English summary). Through BCIRA 40: 2896 (1960). (4466)

Chromium absorption (from $K_2Cr_2O_7$) was studied with a view to improving the affinity for dyes of Tetoron fibers.

DYEING OF DIFFICULT-DYEING FIBERS. PART 11. CONDENSATION DYES OF THE DIPHENYLMETHANE SERIES. K. Yamada. J. Soc. Textile Cellulose Inds. Japan 16, No. 5: 412-417 (1960). In Japanese (English summary). Through BCIRA 40: 2900 (1960). (4467)

The condensation-combination dyeing of Vinylon was studied using 4,4'-bis-dimethylamino diphenylmethane.

DYEING OF DIFFICULT-DYEING FIBERS. PART 12. CONDENSATION DYES OF THE DIPHENYLMETHANE SERIES. PART 13. FIXATION OF BASIC AND CONDENSATION DYES WITH PHOSPHOMOLYBDIC OR PHOSPHOTUNGSTIC ACID. K. Yamada. J. Soc. Textile Cellulose Inds. Japan 16, No. 6: 486-495 (1960). In Japanese (English summary). Through BCIRA 40: 2901 (1960). (4468)

Part 12. Dyeing of Vinylon was studied. Part 13. Phosphomolybdic acid (PMA), phosphotungstic acid (PTA), and phosphotungstomolybdic acid (PTMA) lakes can be fixed on Vinylon, nylon 6, or wool; the PTA colors have the highest lightfastness, the PMA the least.

DYEING POSSIBILITIES FOR POLYACRYLONITRILE FIBERS. K. Jakobs. Chemiefasern 10, No. 5: 306-312 (1960). In German. Through BCIRA 40: 2898 (1960). (4469)

The development of dyeing methods for polyacrylonitrile fibers, the properties and importance of individual dye classes, their saturation points and absorption rates, and suitable dye combinations are reviewed, and directions are given for dyeing polyacrylonitrile fibers (in the form of flock, combed sliver, normal and bulked yarns, and piece goods) with disperse and cationic dyes.

DYEING POLYACRYLONITRILE FIBERS. W. Müller. Spinner u. Weber 78, No. 6: 403-409 (1960). In German. Through BCIRA 40: 2897 (1960). (4470)

Directions are given for precleaning, bleaching, thermofixing, and dyeing of polyacrylonitrile fibers and for dyeing Acrilan.

MECHANISM OF ACTION OF CARRIERS DURING DYEING OF POLYESTER FIBERS WITH DISPERSE DYES. P. Rochas and M. Courmont. Bull. Inst. Textile France No. 86: 15-40 (Jan./Feb. 1960). In French. Through BCIRA 40: 2894 (1960). (4471)

The study showed that a certain quantity of the carrier (50-80 mg/g of fiber) is bound in the amorphous region of the fiber, causing physico-chemical changes which promote the penetration of plasto-soluble dyes and result in increased dyeing rate; these changes persist even after complete removal of the agent with increasing quantity of carrier retained by the fiber, the amount of dye fixed by the fiber increases up to a limit value and then remains constant or decreases. Excess of carrier is liable to lead to a molecular accumulation of the latter in the fiber and may have an adverse effect during dyeing. (See also abstr. 3181/60).

TEMPERATURE DEPENDENCE OF THE ADSORPTION OF ACID DYES BY NYLON. H. Uedaira. Bull. Textile Research Inst. (Japan) No. 53: 49-51 (1960). In Japanese (English summary). Through BCIRA 40: 3225 (1960). (4472)

An explanation is advanced for the increased adsorption with increase in temperature, and a theoretical relation for the standard affinity is derived.

REACT-O-MAT HIGH TEMPERATURE DYEING MACHINE. Freeman, Taylor Machines Ltd. Dyer 124: 491 (Sept. 23, 1960). (4473)

The outstanding feature of the machine is the location of the pump in the middle of the base of the kier. Dye liquor thus flows radially from the pump to the dyeing chamber. Due to the position of the pump and flow characteristics it becomes possible to use internal steam coils. Photo, graph.

EFFECT OF SOLVENTS IN WOOL DYEING. L. Peters, C. B. Stevens, J. Budding, B. C. Burdett, and J. A. W. Sykes (Leeds Univ.). J. Soc. Dyers Colourists 76: 543-550 (Sept. 1960). (4474)

In order to study the mechanism of solvent-assisted wool dyeing, using benzyl alcohol as the solvent, measurements have been made of (1) the sorption of the solvent from aqueous solution by wool, (2) the solubility of the solvent, and (3) its effect on the surface tension of water at different temperatures. The heats and entropies of sorption, surface formation and solution are consistent with the hypothesis that the sorption of benzyl alcohol by wool most probably consists merely of physical adsorption on the intermicellar surfaces in the fiber. Increased swelling of the wool fibers in aqueous solutions of the solvent is not apparent, and the accelerated rate of dyeing is shown to depend on the affinity of the dye for the solvent, as measured by the partition ratio of dye in the solvent to dye in the water. The solvent lowers the activation heat barrier, but increases the activation entropy barrier; whether it accelerates or retards dyeing depends on which is affected to the greater extent. Graphs, tables, 20 refs.

THERMODYNAMICS OF IRREVERSIBLE PROCESSES IN DYEING. PART 1. THE DISCONTINUOUS PROCESS. H. Uedaira. J. Soc. Textile Cellulose Inds. Japan 16, No. 5: 403-405 (1960). In Japanese (English summary). Through BCIRA 40: 2887 (1960). (4475)

It is assumed that the dyeing system consists of two sub-systems (fiber-phase and dyebath) and is discontinuous. Entropy in the dyeing process is calculated and equations are obtained. It is shown that: (1) the diffusion coefficient of dye within the fiber depends on the zeta-potential of the fiber and increases with increase of concentration of foreign electrolyte; (2) in the steady state, the rate of adsorption of dye by the fiber depends on the difference of the chemical potential of the inactive component.

DYEING OF COTTON WARP BEAMS. W. Festerling. Spinner u. Weber 78, No. 6: 422-424 (1960). In German. Through BCIRA 40: 2889 (1960). (4476)

Points to be considered in beam dyeing are reviewed, with special reference to the use of substantive and vat dyes.

HYDROSULFITE CONSUMPTION AND METHOD OF DETERMINATION IN JIG DYEING. H. Borsten. Tex 19, No. 4: 186-191 (1960). In Dutch. Through BCIRA 40: 2886 (1960). (4477)

It is shown that the limit values of hydrosulfite concentration in jig dyeing are largely determined by the cloth length or the time of passage. The extent of oxidation occurring during dyeing depends upon the cloth area to be dyed and the fiber structure. Other factors affecting the hydrosulfite consumption include: the extent of air movement in the room, the dyeing temperature, and the amount of dye used.

CALCULATION OF THE DEGREE OF EXHAUSTION OF DYE AND OTHER LIQUORS. PART 2. H. Schönefeld. Deut. Textiltech. 10, No. 4: 195-198; No. 5: 262-264 (1960). In German. Through BCIRA 40: 3208 (1960). (4478)

The mathematical relationships of exhaustion processes in dye liquors discussed in Part 1 (abstr. 3807/59) are applied under practical conditions in dyeing, washing, and printing. Curves and diagrams, based on the exhaustion factor x_{∞}, are technically interpreted to show how the dyeing process can be controlled as regards liquor ratio, dyeing time, squeezing effect, and liquor addition.

GRAPHICAL DETERMINATION OF THE COMPOSITION AND CORRECTIONS OF THE SODIUM ACETATE/ ACETIC ACID BUFFER MIXTURE DURING DEVELOPMENT OF NAPHTHOL DYES. J. L. Weissink and B. R. H. Wormgoor. Tex 19, No. 6: 341-347 (1960). In Dutch. Through BCIRA 40: 3211 (1960). (4479)

The method described makes it possible to determine graphically the pH of a sodium acetate/acetic acid buffer mixture and to ascertain pH changes due to additions to such a mixture of alkali or acids. This method can be used during the development of naphthol dyes on yarn dyeing apparatus or jig; from the graphical representation, a table can be compiled listing the corrections necessary whenever the pH of the developing bath changes.

PRINTING AND FINISHING ACRYLICS. A. Aldridge and P. V. Jordan (Ind. Dyestuffs Ltd). Man-Made Textiles 37: 73-74 (Sept. 1960). (4480)

Recommended procedures and recipes for printing acrylic and acrylic/cellulose fabrics are outlined.

RECENT DEVELOPMENTS IN DISCHARGE PRINTING OF POLYESTER FIBERS BY THE THERMOSOL METHOD. G. Bertolina. Rayonne et Fibres Synthet. 16, No. 4: 415-418 (1960). In French. Chemiefasern 10, No. 5: 314-316 (1960). In German. Through BCIRA 40: 2905 (1960). (4481)

With reference to the method described in a previous paper (abstr. 2447/59), the author points out the latest developments in discharge printing of polyester fibers by the Thermosol process, which resulted in the application of this process on an industrial scale. A list of dyes is given (the concentration indicated is used at a dyeing temperature of 130° C).

PRINTING OF TREVIRA AND MIXED TREVIRA/ COTTON FABRICS. K. Roth. Chemiefasern 10, No. 4: 258-266 (1960). In German. Through BCIRA 40: 2906 (1960). (4482)

Directions and suitable printing paste compositions are given for printing Trevira and Trevira/cotton fabrics. The fastness properties of Samaron dyes on Trevira fabrics (fixed by the hot-air method) are listed in a table.

FULLY AUTOMATIC SCREEN PRINTING MACHINE, ZIMMER SYSTEM. W. Patek. Melliand Textilber. 41, No. 7: 859-861 (1960). In German. Through BCIRA 40: 3231 (1960). (4483)

The construction and mechanism of the machine are described with special reference to the novel magnetic roller wiper and the hydropneumatic repeat-advancing system.

PRINTING OF FABRICS FROM POLYACRYLONITRILE FIBERS AND THEIR BLENDS WITH COTTON, WOOL AND POLYAMIDE FIBERS. H. Wirth. Melliand Textilber. 41, No. 6: 738-741 (1960). In German. Through BCIRA 40: 2907 (1960). (4484)

Direct and discharge printing of polyacrylonitrile and mixed fabrics is discussed, and a brief survey is made of the methods, dyes, and thickening agents used. Reference is also made to some special effects that can be obtained.

MODERN PRINTING MACHINES FOR ROLLER PRINTING. A. Franken. Textil-Praxis 15, No. 5: 523-528 (1960). In German. Through BCIRA 40: 3232 (1960). (4485)

New printing machine constructions and special devices for roller printing are reviewed.

HOW PRINT WORKS AGERS OPERATE. PART 1. NEUTRAL-STEAM AGERS. L. H. Ferguson (Wade Mfg. Co.). Textile World 110: 90-92 (Oct. 1960). (4486)

Pointers on construction and operation for achieving good color fixation, fastness, and color yields. Diagr.

PATTERN-DYEING TUFTED CARPETS NINE FEET WIDE. Stalwart Mfg. Co. Ltd. Skinner's Silk & Rayon Record 34: 907, 909 (Sept. 1960). (4487)

The operation of the Stalwart pattern-dyeing machine is briefly described. Diagrs.

DUPLEX PRINTING INSTALLATION. Woods Engineers Ltd. Textile Weekly 60 (2): 460-462 (Aug. 26, 1960). (4488)

Features and operation of an 8-color duplex printing machine, designed to print textile materials in 8 colors on each side, or 16 colors on one side, are described. Photos.

ALGINATES AND CARRAGHEENATES IN CALICO PRINTING. H. Schulzen. Melliand Textilber. 41, No. 7: 861-866 (1960). In German. Through BCIRA 40: 3229 (1960). (4489)

A brief survey is made of some problems in the preparation of alginates and carragheenates, their properties, and the use of these two colloids in calico printing.

SOME PECULIARITIES OF DIRECT COTTON DYES IN HIGH TEMPERATURE DYEING PROCEDURES. PART 2. Textile Merc. 143: 417-418 (Sept. 23, 1960). (4490)

While some dyes decompose during high temperature dyeing of cellulose, others give unexpectedly deep shades. Reasons for this phenomenon are discussed.

PIGMENT DYES IN THE TEXTILE INDUSTRY. G. Weckler. Melliand Textilber. 41, No. 5: 573-576; No. 6: 733-736 (1960). In German. Through BCIRA 40: 2903 (1960). (4491)

The advantages and limitations of the pigment technique are described, and the history of pigment printing, the colloidal-chemical structure of printing and padding pastes, the properties required of pigments used in the textile industry, and the chemical structure of pigment dyes are discussed.

TRENDS IN PIGMENT PRINTING. M. J. Quigley (Interchem. Corp.). Am. Textile Reptr. 74: 35, 45 (Sept. 29, 1960). (4492)

Progress report on the expanding use of pigments and the future outlook for their application.

SCREEN PRINTING. PART 1. MATERIALS FOR THE PREPARATION OF STENCILS. PART 2. SCREEN VARNISH. PART 3. TRANSFER OF PATTERNS. A. Franken. Chemiefasern 10, No. 3: 186-193; No. 4: 266-268; No. 5: 316-318 (1960). In German. Through BCIRA 40: 2904 (1960). (4493)

DYE PREPARATION IN SCREEN PRINTING PLANTS. A. Franken. Textil-Rundschau 15, No. 6: 312-318 (1960). In German. Through BCIRA 40: 3230 (1960). (4494)

The layout of a screen printing plant is discussed and illustrated.

Mechanical processes D3

INSTRUMENT MEASURES FABRIC "RAISE". Brit. Rayon Research Assoc. Modern Textiles Mag. 41: 28 (Oct. 1960). (4495)

The working principle of the Raisemeter is basically simple: it measures the resistance of the raised fibers of a fabric to a controlled flow of air which is made to pass through them. This resistance is measured and recorded continuously, using a sensitive pressure transducer and an electronic unit. Diagr.

KUSTERS-HUNT AQUAROLL WATER MANGLE. Hunt & Moscrop Ltd. Textile Merc. 143: 381, 386 (Sept. 16, 1960). Textile Weekly 60 (2): 638, 640 (Sept. 16, 1960). (4496)

Advantages claimed are absolute evenness of squeeze over the entire width of material, automatic compensation for any deflection of the counter bowl and the mild treatment of fabric as a result of the use of a Perlon squeeze roller. Photo.

PLEATING OF NYLON FABRICS. Brit. Nylon Spinners Ltd. Textile Weekly 60 (2): 640 (Sept. 16, 1960). (4497)

If nylon fabrics are fully set during finishing, subsequent durable pleating is impossible. Therefore presetting is recommended. Machine and steam pleating methods are outlined.

Drying, setting, conditioning D4

PIN TENTER FOR TUFTED CARPET. Spooner Dryer & Eng. Co. Ltd. Textile Weekly 60 (2): 823, 836 (Oct. 7, 1960). Textile Merc. 143: 526, 528 (Oct. 14, 1960). (4498)

Features of the double pass tenter are noted. It is complete with drying sections suitable for drying and curing after latex or plastic application and drying after dyeing or printing. Photos.

HOT AIR DRYING: EFFECTS OF TEMPERATURE AND HUMIDITY. P. Wadsworth (Brit. Cotton Ind. Research Assoc.). J. Textile Inst. 51: P552-P562 (Sept. 1960). (4499)

TENTER DRYING AND HEAT TREATMENT OF FABRIC. K. S. Laurie (John Dalglish & Sons Ltd). J. Textile Inst. 51: P562-P565 (Sept. 1960). (4500)

The principles on which the design of modern tentering machines is based are described.

CONTROL OF RESIDUAL MOISTURE DURING DRYING OF TEXTILES IN SHEET FORM. R. Burgholz. Textil-Praxis 15, No. 5: 486-494; No. 6: 632-639 (1960). In German. Through BCIRA 40: 3251 (1960). (4501)

In this review, the author discusses methods for (1) determining the efficiency of dryers, and (2) measuring the residual moisture of sheet-like materials during drying (electrostatic, dielectric, resistance methods), electrodes for scanning the material, means for controlling the residual moisture content of the material, and economical aspects of control installations. 17 refs.

TESTING AND MEASUREMENT E

TEXTILE APPLICATIONS OF PAPER CHROMATOGRAPHY. P. M. Plans. Investigacion e Informacion Textil 2, No. 4: 289-305 (1959). In Spanish. Through BCIRA 40: 2938 (1960). (4502)

This is a review of paper-chromatographic methods for distinguishing between various fibers, dyes, and finishes. 21 refs.

STATISTICAL METHODS FOR TEXTILE TECHNOLOGISTS. T. Murphy, K. P. Norris, and L. H. C. Tippett (Brit. Cotton Ind. Research Assoc.). The Textile Institute, Manchester. 1960. 107 p. $1.50 [approx.]. (4503)

Intended both as an introduction to statistical reasoning in textile work and as a practical handbook of statistical methods for use in the day-to-day work of testing and experimenting in the mill.

Fibers E1

INVESTIGATION ON INTER-FIBER FRICTION IN FIBER SYSTEMS. PART 3. EFFECTS OF PULLING SPEED ON THE WITHDRAWAL FORCE OF SINGLE FIBERS FROM BUNDLES. S. Kinoshita and T. Takizawa. J. Soc. Textile Cellulose Inds. Japan 16, No. 2: 100-104 (1960). In Japanese (English summary). Through BCIRA 40: 2940 (1960). (4504)

A modification of the Postle-Ingham apparatus was used to examine the withdrawal of 3-denier viscose rayon fibers from parallel fiber bundles subjected to external load. The mean withdrawal force $f_m = A \log Bv$, where v is the pulling speed, and A and B are functions of the applied load.

DEPENDENCE OF BREAKING STRENGTH UPON THE TEST LENGTH OF FILAMENTS. PART 4. INTERPRETATION OF THE CONSTANTS. A. Sippel. Faserforsch. u. Textiltech. 11, No. 5: 219-220 (1960). In German. Through BCIRA 40: 3280 (1960). (4505)

It is shown that the value L_o, i.e. the section on the abscissa, corresponding to $1/(F - F_\infty)$ plotted against L, has the same absolute value as L_M (mean-value length). L_o is thus an important material constant which characterizes the strength transfer in the direction of the fiber axis (see abstr. 186/59 and 1095/60).

CONTRIBUTION TO THE STUDY OF COTTON FIBER LENGTH. L. Viertel. Investigacion e Informacion Textil 3, No. 1: 29-33 (1960). In Spanish. Through BCIRA 40: 3288 (1960). (4506)

Evaluation of results obtained in previous experiments showed that the correlation between the uniformity ratio and the variation coefficient of cotton fiber length is of the order of -0.83 to -0.90 for a series of routine tests carried out in a plant laboratory. Provided that there is a functional relationship between the two parameters, the deviations from a correlation coefficient = 1 can be attributed to inaccuracies in observation and measurement. Establishment of confidence intervals or control limits can be useful for laboratory control and contribute to the improvement of working methods and increased measurement accuracy.

SOVIET TEXTILE TESTING METHODS AND DEVICE FOR EXAMINING COTTON FIBERS. H. Langer. Textil-Praxis 15, No. 5: 456-466 (1960). In German. Through BCIRA 40: 3285 (1960). (4507)

Fiber-testing methods, described in the Soviet GOST specifications 3274-46 and in the directions for the laboratory examination of cotton fibers of the Soviet Administration for the Light Industry, are discussed; they include: sampling, fiber-fineness determination, fiber-strength testing, maturity determination, classification as regards number of defects, determination of impurities, moisture-content measurement, group determination (fine-fibered and normal-fibered cotton), and testing the strength, number of fibers/mg, count, maturity coefficient and staple length against standard cotton, in conjunction with accelerated tests (organoleptic tests).

EFFECT OF RELATIVE AIR HUMIDITY AND AIR TEMPERATURE ON THE MICRONAIRE VALUE. J. Lünenschloss and B. V. Iyer. Textil-Praxis 15, No. 6: 565-568 (1960). In German. Through BCIRA 40: 3287 (1960). (4508)

Experiments have shown that, for micronaire tests, it is not necessary to install a compressor in the conditioned room but sufficient time must be allowed for the samples to be conditioned and the samples must be weighed under standardized climatic conditions.

COMPARISON OF VARIOUS TESTING METHODS FOR DETERMINING COTTON FIBER MATURITY. W. Bobeth, W. Kittelmann, and M. Lischka. Faserforsch. u. Textiltech. 11, No. 6: 268-276 (1960). In German. Through BCIRA 40: 3289 (1960). (4509)

It is shown that, for determining the degree of cotton fiber maturity, all rapid methods derived from the micronaire test are suitable for industrial purposes, especially those based on the variation of plug height and pore volume. Whereas the methods based on the use of the micronaire device show a close correlation with each other, the results from the red-green test and the cotton grader exhibit considerable deviations.

REPLICATION OF TEXTILE FIBERS IN ELECTRON MICROSCOPY. P. Chippindale (Royal Tech. Coll., Salford). (Letter to the editor). J. Textile Inst. 51: T392-T397 (Sept. 1960). (4510)

This letter describes a two-stage method of producing good-quality replicas from single fibers, yarns, or fabrics using a Formvar (polyvinyl formaldehyde)-carbon-nitrocellulose embedding medium. Photomicrographs, diagrs, 2 refs.

FIBER MICROSCOPY. PART 2. Textile Mfr. 86: 346-348 (Sept. 1960). (4511)

Optical and electron photomicrographs of wool, silk, flax, viscose, and polyamide fibers.

DETERMINATION OF THE DYNAMIC ELASTICITY MODULUS ON FIBERS BY MEANS OF EXCITED LONGITUDINAL VIBRATIONS. G. Dischka and T. Haymasy. Chemiefasern 10, No. 3: 162-168 (1960). In German. Through BCIRA 40: 2937 (1960). (4512)

Elasticity moduli of short elementary fibers were examined on an apparatus constructed on the principle used by Lyons and Prettyman for filaments and yarns. Vibrating masses and test length have no significant effect on the test results. The dynamic elasticity modulus increases considerably with increasing static stresses and elongations; consequently, the dynamic elasticity modulus is affected by the degree of stress and by the extent of fiber deformation before and during the test. The elasticity modulus of a given fiber depends mainly upon the degree of fiber orientation and, to a much lesser extent, on the size of fiber cross-section. There is a definite relationship between the orientation of fiber structure, the refractive index, and Young's modulus, in agreement with literature data concerning viscose fibers drawn to various degrees in the spinning bath.

ULTRASONIC DEGRADATION OF WOOL AND HAIR. J. H. Bradbury (Wool Research Labs., CSIRO). Nature 188: 207-208 (Oct. 15, 1960). (4513)

It is reported here that wool and hair can be degraded mechanically by ultrasonic treatment, with no appreciable amount of chemical attack, into cuticle material and cortical cells. 15 refs.

PLASTICITY OF WOOL. P. de Wet, J. B. Speakman, and K. J. Whiteley (Univ. Leeds). (Letter to the editor). Nature 188: 69 (Oct. 1, 1960). (4514)

The results of further wool plasticity measurements indicate that there is no simple relationship between the plasticity of wool and its urea-bisulfite solubility. Table, 4 refs.

QUANTITATIVE CHEMICAL ANALYSIS OF BINARY MIXTURES OF ACRYLIC AND CERTAIN OTHER FIBERS. J. Textile Inst. 51: P566-P570 (Sept. 1960). (4515)

Tentative textile standard 63 applies to binary mixtures of acrylic fibers with wool, silk, cotton, polyamide, polyester, and viscose rayon fibers, but it is not applicable to acrylic fibers dyed with pre-metalized dyes. It is suitable for application to fibers in any textile form, e.g. tow, sliver, roving, yarn, or fabric.

Yarns E2

EVALUATING CARD WEB NEPPINESS PHOTOGRAPHICALLY. W. N. Lilly (Cone Mills). Textile Bull. 86: 61-62 (Oct. 1960). (4516)

A comparison of the photographic standards developed by the Swedish Institute of Textile Research (see abstr. 1721/58) and the ASTM system of nep counting indicates the advantages of the former system.

DETERMINATION OF MEAN YARN TEST VALUES FROM THE DIAGRAM OF THE HARP STRENGTH TESTER. F. Walz and G. Bröckel. Textil-Praxis 15, No. 6: 573-579 (1960). In German. Through BCIRA 40: 3304 (1960). (4517)

The mean values of single-thread strength and elongation, as well as elongation variations, can be determined by means of the harp strength tester. The mathematical principles and the practical evaluation of the diagrams are discussed. This evaluation requires less time than 200 single-thread tensile tests and their evaluation.

RATIONAL TESTING OF THE STRENGTH AND ELONGATION OF YARNS. W. Wegener and H. Peuker. Chemiefasern 10, No. 3: 169-175; No. 4: 228-240 (1960). In German. Through BCIRA 40: 2956 (1960). (4518)

The fully automatic tensile strength tester Z 601 (Zwick & Co.) is described and its mechanism explained. An automatically-classifying measuring-value storing device M221 (Masing & Co.) is used for evaluating the results. Various possibilities are presented for the distribution of the total sample size N over the number of bobbins k and the number of end breaks/bobbin l, according to the relationship $N = k.l$. It is shown that it is possible to determine for a certain confidence interval the minimum number of bobbins that have to be tested, and the most economical sample size N and its optimum distribution over k and l for each type of tensile strength tester.

TESTING OF CRIMP YARNS. P. Hempel. Deut. Textiltech. 10, No. 5: 252-256 (1960). In German. Through BCIRA 40: 3310 (1960). (4519)

After a brief literature review, the author describes a method for determining the degree of crimp on yarn strength testers at the lowest possible preliminary tension, testing the crimp stability (measure of recoverability after tensile deformations) by means of an additional device developed for the yarn strength tester, and calculating the decrimping force by means of a second additional device. Directions are also given for determining breaking strength, twist, and fineness. 14 refs.

FUNDAMENTAL ELECTRONIC AND STATISTICAL FACTORS IN AUTOMATIC QUALITY CONTROL OF YARNS. L. Viertel. Ingenieria Textil 27: 137-151 (Mar. 1960). In Spanish. Through BCIRA 40: 3306 (1960). (4520)

In this review the author discusses theories referring to yarn irregularity, graphical control of variables, and devices and methods used for testing yarn regularity (visual examination; photographic examination; weighing of equal lengths; strength and elongation determination; projection on a screen; mechanical calibration; use of capillary tubes; pneumatic, radiation, thermo-electrical, optical and capacitive devices). The results obtained by means of regularity testers are evaluated statistically. 28 refs.

Fabrics E3

ORGANIZATION OF CLOTH INSPECTION. PART 2. A. Cross and G. Newbery. Textile Recorder 78: 73-75 (Sept. 1960). (4521)

The principles of efficient fabric grading and improvement are discussed. For part 1, see abstr. 4055/60.

ELECTRON MICROSCOPIC INVESTIGATION OF LOUSINESS FOUND IN SILK FABRICS. M. Minagawa. J. Soc. Textile Cellulose Inds. Japan 16, No. 5: 392-402 (1960). In Japanese (English summary). Through BCIRA 40: 2978 (1960). (4522)

When a thin ethylmetacylate plate that has been heated to about 100° C is hot pressed, at 2-3 kg/cm^2 pressure, on to woven material (treated with either ethyl alcohol/formalin mixture or osmic acid solution), the plate picks up the lousiness. The surface of the plate can be vapor-coated with carbon and shadowed with chrome, the plate dissolved in acetone, and, in this way, a test piece made. Electron micrographs are shown and different types of lousiness are classified according to flocking of fibrils, grouping density, and foreign matter. Fibrils of 500 Å to 1.2 μ diameter, and brin, predominate.

STATISTICAL EVALUATION OF FATIGUE AND ABRASION VALUES AS EXAMPLE FOR LOGARITHMICALLY NORMALLY DISTRIBUTED FUNCTIONS. H. Martin. Chemiefasern 10, No. 3: 150-160 (1960). In German. Through BCIRA 40: 2971 (1960). (4523)

Methods for evaluating fatigue and abrasion values in the case of large ($N > 20$) and small ($N = 5 - 20$) sample sizes are described, and the criteria for replacing logarithmic normal distribution by normal distribution and the advantages of discontinuing a series of experiments when 50-70% of the samples are broken are discussed. Suitable tables and diagrams are given as auxiliary means.

TEXTILES: DETERMINATION OF THE TEARING STRENGTH ON FABRICS (FALLING PENDULUM TEST). Swiss Standards Assoc. Textil-Rundschau 15, No. 6: 308-311 (1960). In German. Through BCIRA 40: 3317 (1960). (4524)

The Swiss specification SNV 98 482 contains the method for testing the mean tear strength or mean tearing force by means of a dropping pendulum on fabric strips into which cuts have been made beforehand. The method is applicable to gray or finished as well as to lined or coated fabrics. Apart from some variations in the apparatus and text, the method is in agreement with the ASTM 1424-56T specification.

ABRASION TESTS ON CARPETS USING DIFFERENT ABRADANTS. D. G. Clegg and S. L. Anderson. J. Textile Inst. 51: T385-T391 (Sept. 1960). (4525)

The effect of several abradants on nylon, viscose rayon, nylon/viscose blends, and all-wool carpets of the same construction was investigated. While all abradants ranked the nylon/viscose carpets in the same order, the ranking of the all-wool carpet depended on the abradant used. Severe abradants, such as emery, show the least discrimination between different fibers. Photos, graphs, tables, 10 refs.

TESTING OF FABRIC SHRINKAGE. K.-H. Rascher. Deut. Textiltech. 10, No. 5: 256-261 (1960). In German. Through BCIRA 40: 3315 (1960). (4526)

Results of shrinkage tests by the hand ironing method, the ironing test apparatus, and the steam ironer are reported, taking into account the effective moisture content and the number of ironing or steam treatments. These procedures are compared with a method which enables the detection, during the test, of the latent stresses present in the fabric (total shrinkage).

WASH AND WEAR: PROGRESS REPORT FOR 1960. G. M. Richardson. Am. Dyestuff Reptr. 49: P734-P738 (Oct. 3, 1960). (4527)

The author discusses the status and programs of the AATCC Wash and Wear Committee. Progress in work on lighting and viewing procedures and seam evaluation are reported, and the principles of the Hunter Wrinklemeter, Cluett Smoothness Evaluator, and Du Pont LAP method are described. Photos, diagrs, 2 refs.

WASH AND WEAR FABRICS: APPEARANCE AFTER HOME LAUNDERING. TENTATIVE TEST METHOD 88-1960. AATCC Comm. on Wash & Wear. Am. Dyestuff Reptr. 49: P746-P747 (Oct. 3, 1960). (4528)

Tentative Test Method 88-1958 has been revised to (1) provide an alternative evaluation procedure using three-dimensional plastic replicas as well as the standard photographs and (2) include fabrics having special surface effects. Photos, diagr, table.

WATER REPELLENCY-CREASE RESISTANCE. LABORATORY TESTS. COMPARISON OF METHODS. PART 2. M. C. Danguillaume. Rev. Textile 59, No. 1: 46-51 (1960). In French. Through BCIRA 40: 2976 (1960). (4529)

Methods for evaluating the crease resistance, the mechanism of creasing, factors determining crease resistance, and creasing conditions are discussed. 51 refs.

GRIPPING HIGH-STRENGTH FABRICS DURING TESTS. K. F. Plitt and L. A. Dunlap. Textile Mfr. 86: 372-373 (Sept. 1960). (4530)

The determination of physical properties of high-strength fabrics, such as tensile strength and burst strength, is complicated by the tendency for yarns to slip during testing. A method is described for laminating the gripped area of the fabric with Saran film to overcome this difficulty. Photos.

CLOTH TEARING STRENGTH. LITERATURE SURVEY. PART 4. B. Edberg, L. Sonnerup, and T. Eeg-Olofsson. Medd. TEFO No. 8: 1-21 (1960). In Swedish. Through BCIRA 40: 3316 (1960). (4531)

Further studies are reviewed (see abstr. 3649/60 and 4050/60).

Other E4

COLORFASTNESS TO WASHING. V. D. Lyon. Am. Dyestuff Reptr. 49: P742-P743 (Oct. 3, 1960). (4532)

Progress in the evaluation of AATCC accelerated test procedures for determining colorfastness to washing in terms of end-use requirements is reviewed.

COLORIMETRIC DETERMINATION OF UREA IN UREA FORMALDEHYDE RESINS. M. L. Adams and M. H. Swann. Off. Dig. Fed. Paint Varn. Prod. Cl. 31: 1247-1251 (1959). Through BCIRA 40: 3003 (1960). (4533)

The urea content of urea-formaldehyde resin solution, alone or in admixture with melamine resins, can be measured by the yellow color developed with p-dimethylaminobenzaldehyde. The resins are first hydrolyzed in methanol with hydrochloric acid.

COLOR MATCHING LAMPS. W. Harrison. Dyer 124: 457 (Sept. 23, 1960). (4534)

The development of different color fluorescent tubes in various combinations for color matching is discussed.

METHODS FOR THE IDENTIFICATION OF TEXTILE FINISHES. T. D. Miles. Am. Dyestuff Reptr. 49: P738-P739 (Oct. 3, 1960). (4535)

The general approach to developing methods for identifying finishes is considered, using as examples finish categories for which there are no general methods at the present time.

EVALUATION OF FINISHES FOR RESISTANCE TO STAINING AND SOILING. H. B. Goldstein. Am. Dyestuff Reptr. 49: P740-P741 (Oct. 3, 1960). (4536)

Progress on the development of test methods for evaluating the resistance of finishes toward oil-borne stains and wet soiling is reported.

PAPER CHROMATOGRAPHY OF TEXTILE DYES. J. Jungbeck. SVF Fachorgan Textilveredlung 15, No. 6: 417-429 (1960). In German. Through BCIRA 40: 3326 (1960). (4537)

Theoretical principles (history of paper chromatography; adsorption, exchange, distribution, and paper chromatography), and use of paper chromatography in dye analysis (methods and results, suitable solvent mixtures for the individual dye classes; relationships between chemical constitution of the dye, its R_f-value, and the eluting-agent composition) are discussed.

PAPER CHROMATOGRAPHY OF SYNTHETIC DYES. J. C. Brown (Ciba Clayton Ltd). J. Soc. Dyers Colourists 76: 536-542 (Sept. 1960). (4538)

The general techniques of paper chromatography are outlined and specific examples of suitable methods for disperse, acid, direct, and metal-complex dyes are given. Methods of extracting dyes from various textile fibers are given. The complex nature of many commercial dyes is discussed in relation to methods of manufacture. Photos, diagrs, graph, 41 refs.

A RAPID METHOD FOR THE ESTIMATION OF THE DEGREE OF CARBOXYMETHYLATION OF PARTIALLY CARBOXYMETHYLATED CELLULOSE. K. G. Ghosh, M. R. Raman, A. N. Dey, and K. J. Balakrishna (Defence Research Lab., Stores). (Letter to the editor). J. Sci. Ind. Research (India) 19B: 323-324 (Aug. 1960). (4539)

An iodimetric method is described for the determination of the degree of substitution in carboxymethylated cellulose molecule. The method, which is based on the estimation of iodine liberated quantitatively from an iodate-iodide solution by the highly reactive carboxyl group present in carboxymethylated cellulose, is rapid and reliable, and gives reproducible results. Tables, 3 refs.

LABORATORY METHODS FOR EVALUATION OF DRYCLEANING DETERGENTS. PART 2. L. E. Weeks and J. T. Lewis (Monsanto Chem. Co.). Soap Chem. Specialties 36: 50, 105, 107 (Oct. 1960). (4540)

See abstr. 4091/60.

ANTHRAQUINONE AND ANTHRONE SERIES. PART 24. CHROMATOGRAPHY OF VAT DYES ON ALUMINA AT HIGH TEMPERATURES. M. K. Unni and K. Venkataraman (Nat. Chem. Lab.). J. Sci. Ind. Research (India) 19B: 355-359 (Sept. 1960). (4541)

An apparatus and procedure for the chromatographic adsorption analysis of vat dyes on alumina at temperatures between 100° and 200° are described. o-Dichlorobenzene, trichlorobenzene, phenol, o-chlorophenol, and m-cresol are useful as solvents for adsorption, development and elution. Model separations are reported. Diagr, tables, 14 refs.

EXPERIMENTS ON THE STANDARDIZATION OF TESTING METHODS FOR TEXTILE ASSISTANTS. PART 18. DETERMINATION OF THE DEFLOCCULATION POWER OF SURFACE ACTIVE SUBSTANCES. G. von Hornuff. Faserforsch. u. Textiltech. 11, No. 6: 286-298 (1960). In German. Through BCIRA 40: 3325 (1960). (4542)

Accurate directions are given for carrying out the three methods proposed for determining the deflocculation power of surface active agents (azo pigment method; vat acid method; Indigo method. The methods, proposed as standard tests, were suitably modified to improve their reproducibility, and the experiments, carried out on a series of surface active agents (dispersing agents) and test dyes, were evaluated by spot tests on suitable filter paper.

STANDARDIZED CLEANLINESS. G. Weder. Textil-Rundschau 15, No. 6: 293-297 (1960). In German. Through BCIRA 40: 3330 (1960). (4543)

The method proposed for the standardization of the cleaning action of detergents and laundering processes is based on the use of the EMPA soiling agent (Indian ink/olive oil emulsion) in combination with the bleachable Immedial Black dyeing. The brightening effect brought about by washing is measured on reflection-measuring devices (e.g. Lange leucometer, Zeiss Elrepho, etc.).

NEW METHOD FOR TESTING THE STABILITY OF OIL EMULSIONS. R. Schiffner. Faserforsch. u. Textiltech. 11, No. 5: 241-244 (1960). In German. Through BCIRA 40: 3327 (1960). (4544)

The method proposed is based on the fact that, during storage of an emulsion, the oil phase concentrates in the upper layer of the emulsion. The oil content of a sample taken from this layer after a certain time of standing is compared with that separated from a freshly-prepared emulsion, the ratio of the two values being a measure of the emulsion stability.

POSSIBILITIES OF EVALUATING THE DEGREE OF WHITENESS. A. Kling and J. Kurz. Textil-Rundschau 15, No. 6: 297-305 (1960). In German. Through BCIRA 40: 3320 (1960). (4545)

An attempt is made to correlate the three principal methods of increasing the degree of whiteness with the possibilities of evaluating the whiteness content. It is only possible to evaluate the whiteness content fairly accurately if the method used for treating the material is known. Although visual matching results on white materials vary considerably, a useful agreement can be attained by the correct application of the formulas derived for reflecting bodies.

MILL MANAGEMENT F

MANAGEMENT IN THE SECOND INDUSTRIAL REVOLUTION. W. Puckey (Management Selection Ltd). J. Textile Inst. 51: P450-P459 (Aug. 1960). (4546)

The contributions of science and technology, the social sciences, and managers to management are discussed.

U. K. COTTON TEXTILE INDUSTRY: SOME THOUGHTS ON REEQUIPMENT. A. Ormerod (Ashton Bros. & Co., Ltd). Textile Weekly 60 (2): 807-812 (Oct. 7, 1960). (4547)

Industrial engineering F1

REFERENCE TABLES FOR OPTIMUM QUALITY CONTROL TESTING. PART 1. N. L. Enrick (Inst. Textile Technol.). Modern Textiles Mag. 41: 60-63 (Oct. 1960). (4548)

Tables for use in computing coefficient of variation, sampling error or tolerance, and sampling risk are given.

WHAT SUPERINTENDENTS EXPECT OF QUALITY CONTROL. J. L. Delany (Joanna Cotton Mills). Textile Bull. 86: 37-39, 80-81 (Oct. 1960). (4549)

The role of the quality control department in detecting sources of machine and process variables and in setting up and maintaining standards is explained with pertinent examples.

GETTING MORE FROM SAMPLING. E. E. Beckner. Textile World 110: 48-50 (Oct. 1960). (4550)

A method for increasing the effectiveness of random sampling in statistical quality control is described using sliver weight control as an example.

HUMAN ELEMENT IN QUALITY CONTROL. D. M. Burger (Collins & Aikman Corp.). Textile Bull. 86: 49-52 (Oct. 1960). (4551)

The importance of proper motivation to the success of a quality control program is stressed.

REVIEW OF THE ACTIVITIES OF THE AATCC COMMITTEE ON STREAM SANITATION. R. H. Souther. Am. Dyestuff Reptr. 49: P744-P745 (Oct. 3, 1960). (4552)

MANAGEMENT'S ROLE IN MILL SAFETY. J. Morton. Textile Weekly 60 (2): 739-742 (Sept. 30, 1960). (4553)

CLARIFICATION OF TEXTILE WASTES BY MEANS OF MAGNESIUM CHLORIDE. J. Nosek and J. Krepelka. Vodni hospodarstvi 9: 556-557 (1959). Through Chem. Abstr. 54, No. 12: 12437 (1960). (4554)

Full-scale tests of clarification of textile wastes by means of $MgCl_2$ showed that, in a highly alkaline medium, it is a very effective clarification agent. The use of $MgCl_2$ is especially advisable for laboratory tests, as the color of the originally white $Mg(OH)_2$ may be a good indicator of the quantity of the dye removed.

HOW TO ORGANIZE A TRAINING PROGRAM WITHIN A MILL. A. A. Laurin (Dominion Textile Co. Ltd). Can. Textile J. 77: 23-27 (Oct. 14, 1960). (4555)

The requirements and principles forming the basis of an in-plant training program are explained.

CONDUCTING A MILL TRAINING PROGRAM. PART 2. C. R. Beall. Textile Bull. 86: 125-130 (Sept. 1960). (4556)

The training program used by Opp-Micolas Cotton Mills for its new employees is explained in detail.

Plant and equipment F2

MOISTURE MEASURING METHOD. K. G. Gröninger. Melliand Textilber. 41, No. 6: 770-777 (1960). In German. Through BCIRA 40: 2991 (1960). (4557)

The effects of moisture, humidity laws applying to textile materials, and definition and measurement of moisture are discussed, with special reference to the equi-hygroscope and its mechanism. The new measuring principle can also be utilized in equipment measuring the temperature and controlling the climatic conditions in workrooms.

ELECTRONICS IN THE TEXTILE INDUSTRY. Fielden Electronics Ltd. Fibres and Plastics 21: 311-313 (Oct. 1960). (4558)

As examples of the application of electronics in the textile industry the following are described: Fielden-Walker evenness recorder and integrator; Drimeter moisture control equipment; and Multipoint temperature control.

ELECTRONIC MEASURING TECHNIQUE WITH EXAMPLES OF ITS APPLICATION IN TEXTILE RESEARCH. PART 3. J. Gayler. Textil-Praxis 15, No. 4: 448-452; No. 6: 590-594 (1960). In German. Through BCIRA 40: 3276 (1960). (4559)

Devices for measuring power or path, velocity, acceleration, number or position, and temperature are reviewed and a table is given listing the principles of the device, typical examples, suitable amplifiers, and registration instruments.

WHICH MOTOR WILL IT BE? F. C. Osterland (Allis-Chalmers Mfg. Co.). Modern Textiles Mag. 41: 48-50, 53 (Oct. 1960). (4560)

Practical advice on motor selection based on: machine requirements, ambient conditions, type of electrical power available, and costs, maintenance requirements, and mounting. Photo, graph, table.

HOW TO INSTALL PRODUCTION MOTORS. J. W. Samzelius and R. F. Woll (Westinghouse Elec. Corp.). Textile World 110: 61-63 (Oct. 1960). (4561)

A program for correct installation and scheduled maintenance of electric motors is outlined. Photos.

MARKETING MAN'S OUTLOOK ON MACHINE MODERNIZATION. C. W. Bendigo (Werner Textile Consultants). Textile Bull. 86: 99-100, 134 (Sept. 1960). (4562)

FINANCING EQUIPMENT MODERNIZATION. W. M. Kelly (Commercial Factors Corp.). Textile Bull. 86: 96-98, 106 (Sept. 1960). (4563)

POLYSLIP 1M DRY BEARING MATERIAL. Bound Brook Bearings Ltd. Textile Weekly 60 (2): 567-568 (Sept. 9, 1960). (4564)

Polyslip 1M consists of a special porous bronze matrix, produced by the powder metallurgy technique, having the pores at the working surfaces impregnated with a mixture of polytetrafluorethylene and lead additive. Its advantages and applications are cited. Photos.

SCIENCES G

Chemistry G1

SORPTION OF WATER BY CELLULOSE AND EIGHT OTHER TEXTILE POLYMERS. PART 1. SORPTION OF WATER BY CELLULOSES BELOW 100° C. R. Jeffries (Brit. Rayon Research Assoc.). J. Textile Inst. 51: T339-T374 (Sept. 1960). (4565)

Results are presented on the equilibrium absorption and desorption of water vapor by various celluloses in the range 0-100% rh and 30-90° C. The celluloses studied are cotton, mercerized cotton, ramie, wood pulp, bacterial cellulose, mercerized bacterial cellulose, animal cellulose, viscose (yarns and films), Tenasco, cuprammonium rayon, saponified secondary acetate film, and Fortisan. The sorption data are compared where possible with the previous results and analyzed to provide information on the relative sorptivity of the various celluloses, effect of temperature on sorption, and amount of sorption hysteresis as a function of humidity and temperature. The isoteric heats and entropy of sorption are calculated and discussed briefly. Graphs, tables, 77 refs.

NEW SURFACTANTS LISTED. PART 1. J. W. McCutcheon. Soap Chem. Specialties 36: 53-62, 114 (Oct. 1960). (4566)

This fifth revision includes only new or previously unlisted detergents and emulsifiers. The full list of both previously listed surfactants and new ones is available in 127-page booklet form, obtainable from the compiler, John W. McCutcheon, 475 Fifth Ave., New York 17, N.Y.

ACTION OF DIMETHYL SULFOXIDE ON WOOL. N. H. Koenig and R. A. O'Connell (Western Reg. Research Lab.). (Letter to the editor). Textile Research J. 30: 712-714 (Sept. 1960). (4567)

This note deals with information on the conditions and features of supercontraction by dimethyl sulfoxide. Tables, 5 refs.

CHEMISTRY OF PROTEIN FIBERS. J. B. Speakman (Univ. of Leeds). J. Textile Inst. 51: P392-P407 (Aug. 1960). (4568)

The amino acid constitution of silk fibroin and the molecular structure, salt and cystine linkages, disulfide bond reactivity, and amino acid constitution of wool fibers are reviewed. Photomicrographs, graphs, tables, 55 refs.

IODINE SORPTION ON CELLULOSE FIBERS. H. Tanzawa. J. Soc. Textile Cellulose Inds. Japan 16, No. 5: 373-380 (1960). In Japanese (English summary). Through BCIRA 40: 2939 (1960). (4569)

Equilibrium sorption isotherms of iodine on cellulose fibers (rayons and pulps) have been determined in an aqueous solution in presence of potassium iodide at 25° C. The parameters of the Langmuir equation can be used to measure the degree of crystallinity and accessibility. The method is not convenient as a measure of degree of crystallinity but it is useful for detecting variation in fine structure of freshly regenerated cellulose gel when it is dried or stretched.

DETERMINATION OF CARBOXYL GROUPS IN CELLULOSE AND OXIDIZED CELLULOSE. J. A. Epstein and M. Lewin (Inst. for Fibres & Forest Prods. Research). Textile Research J. 30: 652-655 (Sept. 1960). (4570)

Methods available for the determination of carboxyl groups are examined in order to determine which is the most suitable method, combining reproducibility and accuracy with relative simplicity. Tables, 15 refs.

MISCELLANY H

FIBER TO FABRIC. 3d ed. M. D. Potter and B. P. Corbman. McGraw-Hill, Gregg Pub. Div., New York. 1959. 342 p. $4.20. (4571)

A general survey of fibers and textile technology designed to serve as an aid (1) to persons entering areas of business dealing in textiles or textile products, (2) to consumers, and (3) to teachers of basic courses in textiles.

RETROSPECT OF MATHEMATICS IN TEXTILE TECHNOLOGY. L. H. C. Tippett (Brit. Cotton Ind. Research Assoc.). J. Textile Inst. 51: P413-P422 (Aug. 1960). (4572)

The application of mathematical analysis to problems of yarn mechanics and uniformity problems is reviewed. 22 refs.

MATHEMATICS AND TECHNOLOGY. M. J. Lighthill (Royal Aircraft Estab.). J. Textile Inst. 51: P408-P412 (Aug. 1960). (4573)

The role of mathematics in the generation of physical ideas and the calculation of numerical answers is discussed.

VISTAS OF TEXTILE TECHNOLOGY. W. Regnery (Joanna Cotton Mills). Textile Bull. 86: 93-95, 104 (Sept. 1960). (4574)

In order to improve the poor investment picture in the textile industry, the author suggests (1) improvements in the raw material and (2) technical improvements in processing, beginning with carding. 4 refs.

HOW TO MAKE THE TEXTILE OUTLOOK EVEN BETTER. J. E. Spears (Burlington Inds.). Textile Bull. 86: 41-43, 81 (Oct. 1960). (4575)

A critical look at the current textile industry outlook with suggestions for action in those areas where the textile industry has the power of corrective action.

PRODUCTIVITY OF COTTON TEXTILES: AN INTER-INDUSTRY STUDY. P. K. Bhaumik. Indian Textile J. 70: 536-538, 532 (July 1960). (4576)

Some data are given about seven Indian industries in an interindustry study of Indian cotton textile productivity.

YEAR BOOK OF THE TEXTILE INSTITUTE. NO. 12, 1960-61. The Textile Institute, 10 Blackfriars St., Manchester 3, England. 1960. 292 p. $3.00. (4577)

Details are given of the organization and activities of the Textile Institute, books and periodicals in the library, Textile Institute standards, and textile organizations in Great Britain and other countries. Members are listed.

INDIAN COTTON TEXTILE INDUSTRY: A STUDY OF PRODUCTIVITY AND STRUCTURE. H. Chandra. Indian Textile J. 70: 478-484 (June 1960). (4578)

MILL ON THE DAN: A HISTORY OF DAN RIVER MILLS, 1882-1950. R. S. Smith. Duke Univ. Press, Durham, N. C. 1960. 570 p. $12.50. (4579)

SCIENCE AND THE WORKER. L. T. Wright (Amalgamated Weavers' Assoc.). J. Textile Inst. 51: P460-P468 (Aug. 1960). (4580)

The effect on the worker of scientific and technological developments is analyzed.

EMPLOYMENT POLICY. D. P. T. Jay (Brit. House of Commons). J. Textile Inst. 51: P423-P433 (Aug. 1960). (4581)

The economic problems connected with a policy of "full employment" in the United Kingdom are discussed.

TRENDS IN INDUSTRIAL RESEARCH/DEVELOPMENT. Y. Brozen. Research/Development 11: 5-7, 10, 13-17 (Aug. 1960). (4582)

An analysis of research expenditures with breakdown by various industries. Textile mill and apparel research is shown as the lowest in the group, with a research percentage of 0.15% of sales and the lowest return on net worth of 4.8%, based on 1956/57 data. 11 refs.

BIOLOGICAL PERSPECTIVES IN TEXTILE RESEARCH. R. G. H. Siu (U.S. Army Quartermaster Corps). J. Textile Inst. 51: P439-P449 (Aug. 1960). (4583)

Trends in biological investigations in the textile field over the past fifty years are reviewed including the selection and breeding of new varieties of plants and animals, protection of raw and finished goods against biological agents, and the physiology and psychology of clothing. 39 refs.

TEXTILE INDUSTRIES BUYER'S GUIDE, 1960. Textile Inds. 124: 1-276 (Mid-Sept. 1960). (4584)

Brief description of products and services made commercially available since October 1959. Part 1 is divided into 10 sections each of which includes a review of equipment, products, or services, descriptions of technical bulletins, catalogs, and data sheets. Part 2 includes an alphabetical listing of products, services, and suppliers.

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Natural fibers A1

HARVESTING AND DECORTICATING MACHINES. G. Brereton. USP 2 952 044, Sept. 13, 1960. (4585)

Manmade fibers A2

MANUFACTURE OF ALL SKIN VISCOSE RAYON. A. Brötz, K. Richter, W. Wachtendorf, and K. Heuer (to Am. Enka Corp.). USP 2 947 597, Aug. 2, 1960. (4586)

METHOD FOR THE PREPARATION OF ACRYLONITRILE GRAFT COPOLYMER FIBER-FORMING SYSTEMS. C. W. Davis, J. F. Voeks, and F. A. Ehlers (to Dow Chem. Co.). USP 2 949 435, Aug. 16, 1960. (4587)

ALL-SKIN VISCOSE FIBERS. R. L. Mitchell (to Rayonier Inc.). USP 2 952 508, Sept. 13, 1960. (4588)

FIRE-RETARDANT CELLULOSIC COMPOSITIONS. E. H. Rossin and M. J. Scott (to Monsanto Chem. Co.). USP 2 952 880, Sept. 20, 1960. (4589)

Cellulose fibers with durable afterglow-resistant and fire-retardant properties are prepared from cellulose spinning solutions containing a reaction product of phosphoryl chloride and ammonia.

PRODUCTION OF POLYCHLOROTRIFLUOROETHYLENE FILAMENTS. T. D. Hunt and J. R. Buster (to Union Carbide Corp.). USP 2 953 428, Sept. 20, 1960. (4590)

SHRINKABLE VISCOSE FILAMENTS FOR PRODUCING HIGH BULK YARNS. N. Drisch and P. Schneller (to Chimiotex SA). USP 2 954 270, Sept. 27, 1960. (4591)

YARN PRODUCTION B

REMOVAL OF ADHERING LIQUIDS FROM TRAVELING TEXTILE THREADS. J. P. Bemberg AG. BP 838 231, June 22, 1960. Through BCIRA 40: 3106 (1960). (4592)

Instead of using squeeze rollers, vibrations are set up in the running yarn so as to shake off adhering liquid.

FALSE TWIST CRIMPING APPARATUS. R. Bouvet (to Am. Viscose Corp.). USP 2 951 330, Sept. 6, 1960. (4593)

Apparatus for causing a twist to run back along a strand which is traveling in a tortuous path.

PRODUCTION OF LOW-SHRINKAGE POLYETHYLENE TEREPHTHALATE FILAMENTS WITHOUT A RING RAIL PERIOD. Vereinigte Glanzstoff Fabriken. BP 835 522, May 25, 1960. Through BCIRA 40: 2856 (1960). (4594)

The invention relates to the processing of filaments of the Terylene type by a stretching treatment followed by high-speed ring twisting into cops. The usual method may result in shrinking by, say, 10-12% when the filaments are boiled (as in dyeing) and the shrinkage may fluctuate periodically and thus lead to unlevel dyeing. The periods are called ring rail periods and can also be seen in regularity tests by the Frenzel-Hahn universal yarn testing machine. The object of the invention is to reduce this latent shrinkage to about 2% and eliminate the periodicity.

FLUID METERING APPARATUS FOR TOW CRIMPING MACHINE. C. H. Goodwin and W. R. McKelvy, Jr. (to Chemstrand Corp.). USP 2 952 045, Sept. 13, 1960. (4595)

Steam valve for directing steam into a filamentary tow at the nip of a pair of crimping rolls to condition the tow for permanently set crimps.

DRAWTWISTER WITH SLIP COUPLING. J. E. Bromley (to Chemstrand Corp.). USP 2 952 115, Sept. 13, 1960. (4596)

Driving arrangement which eliminates yarn breakage during startup and filament loop formation during shutdown.

FALSE TWIST CRIMPING DEVICE FOR THERMOPLASTIC YARN. C. J. Gonsalves and H. D. Cloux (to Am. Enka Corp.). USP 2 952 964, Sept. 20, 1960. (4597)

Apparatus for the continuous production of curled untwisted yarns without the use of softening or twisting agents.

LAP, CLOTH, OR YARN ROLL RECEIVING AND POSITIONING APPARATUS. R. M. Ingham, Jr. (to Deering Milliken Research Corp.). USP 2 953 821, Sept. 27, 1960. (4598)

Opening, picking, fiber preparation B1

BALE BREAKER. Deutscher Spinnereimaschinenbau Ingolstadt and Schubert & Salzer Maschinenfabrik AG. BP 838 793, June 22, 1960. Through BCIRA 40: 3128 (1960). (4599)

The bale (e.g. cotton) rests on a bar grate and the spikes or saw teeth of the moving roller or lattice reach the fiber between the bars.

COTTON FIBER CLEANER. J. I. Kotter and M. Mayer, Jr. (to U.S. Secy. Agri.). USP 2 951 265, Sept. 6, 1960. (4600)

MACHINE FOR CLEANING, DRAFTING, AND PARALLELIZING FIBERS SUCH AS WOOL, HAIR, AND COTTON. A. Boer (to Bancroft-Brillotex Intern. SA). USP 2 952 046, Sept. 13, 1960. (4601)

COTTON PICKER EVENER. K. G. Lytton, C. S. Wise, and C. A. Hendrix (to Fiber Controls Corp.). USP 2 952 047, Sept. 13, 1960. (4602)

The speed of the delivery rolls is varied inversely in proportion to the density of the cotton by means of a fluid-pressure actuated device.

LINT COTTON CLEANER WITH LUMP ROLL AND CARDING CYLINDER. H. G. Moss and J. D. Towery (to Botany Inds.). USP 2 952 881, Sept. 20, 1960. (4603)

PREPARATION OF BRISTLE MATERIAL FOR BRUSHES. A. H. Karsa (to Herbert Rushworth & Co. Ltd). USP 2 953 820, Sept. 27, 1960. (4604)

Machine for the removal of trash from vegetable fibers so that the latter acquire clean, smooth surfaces.

Carding and combing B2

REDUCTION AND REMOVAL OF DUST AT CARDING ENGINES. F. Brownsett (to Brit. Cotton Ind. Research Assoc.). BP 838 138, June 22, 1960. (Addition to BP 762 403). Through BCIRA 40: 3131 (1960). (4605)

In a roller and clearer card, high air pressures are prevented in the regions of the junctions between (1) the takerin and feed rollers, (2) the main cylinder and the doffer and (3) the rollers and clearers around the main cylinder, by extending the conventional loose wooden cover to enclose also junction (1) and continuously exhausting the enclosed space.

Drawing and roving B3

BEARING ARRANGEMENTS FOR THE BOTTOM ROLLS OF DRAFTING MECHANISM. SKF Kugellagerfabriken GmbH. BP 836 178, June 1, 1960. Through BCIRA 40: 3137 (1960). (4606)

A roller bearing, mounted in a bracket which is open at the top, is sealed at its ends by two members of the same or different outer diameters such that a gap is left between them and the outer ring of the bearing. This ring is displaceable axially in both directions from its operating position in which it overlaps the seals.

DEVICE FOR THE FEEDING OF SLIVERS TO DRAW-FRAMES. L. Vella (Italy). BP 836 270, June 1, 1960. Through BCIRA 40: 3133 (1960). (4607)

The device is driven in timed relationship with the feed rollers of the drawframe and comprises (1) a drive shaft that drives (2) a number of parallel shafts through (3) a further shaft normal to them and (4) a set of intermeshing helical gear wheels. Shafts (1) and (2) come on opposite sides of shaft (3) and carry rollers that feed and guide slivers from cans below.

APRON TYPE CLEARER FOR DRAWING FRAME DRAFTING ROLLS. P. B. West (to Saco-Lowell Shops). USP 2 951 268, Sept. 6, 1960. (4608)

FLYERS. J. D. W. Taylor (to Wm. Ayrton & Co. Ltd). BP 836 394, June 1, 1960. Through BCIRA 40: 3134 (1960). (4609)

A simple flyer is formed of separate base and guiding-arm parts clamped together by pinch bolts. The base is secured directly to the spindle by screw thread means.

DRAFTING APPARATUS. J. Noguera (to Casablancas High Draft Co. Ltd). BP 837 643, June 15, 1960. Through BCIRA 40: 3136 (1960). (4610)

The invention relates to the locking arrangements for a top roller weighting and guiding arm of the kind that is pivoted for movement between a lower, operative position and an upper position in which it is out of action. A floating spring-influenced abutment device or packing piece bears, in the operative position of the arm, between an abutment at the rear of the drafting apparatus and a point on the arm such that the part of the arm that overlies the drafting field is positively prevented from lifting beyond a predetermined position.

DRAFTING ROLL COVERS. G. E. Watts, R. W. Inman, and S. B. Hainsworth (to Resilla Cots & Rollers Ltd). BP 838 126, June 22, 1960. Through BCIRA 40: 3139 (1960). (4611)

A roller cover for fluted rollers is molded from oil-resistant synthetic rubber or compounded polyvinyl chloride and formed with flutes to correspond with those on the rollers but of less depth (e.g. half).

SLIVER PHOTOELECTRIC INSPECTION AND CONTROL DEVICES. E. Breuning. BP 838 176, June 22, 1960. Through BCIRA 40: 3135 (1960). (4612)

The invention relates to a photoelectric device for detecting the failure of one of a set of slivers running to a drawing or flyer frame, which may also be used to actuate a stop motion.

LUBRICATION OF DRAFTING MECHANISMS. J. Noguera (to Casablancas High Draft Co. Ltd). BP 838 946, June 22, 1960. Through BCIRA 40: 3138 (1960). (4613)

A pivoted cover is provided as a protective shield over the roller stand bearings and necks of the bottom rollers. The cover incorporates one or more absorbent pads charged with lubricant which makes light contact with the roller necks.

FLY REDUCTION DEVICE FOR SLIVER DRAFTING. B. W. Lynch, Jr. (to Jenkins Metal Shops). USP 2 953 823, Sept. 27, 1960. (4614)

Device which folds the outer edges or selvages of the web emitted from the delivery rolls, entrapping thin, fly-producing fibers and reducing the web width to facilitate its passage through the trumpet.

DOUBLE-APRON DRAFTING MECHANISM FOR DIFFERENT LENGTH FIBERS. W. Kraft (to SKF Kugellagerfabriken GmbH). USP 2 955 330, Oct. 11, 1960. (4615)

The mechanism can be converted to single-zone drafting by the use of longer aprons and the middle rolls can act either to give a drafting nip or merely control or guide the aprons.

TOP DRAFTING ROLL SUPPORT AND WEIGHTING. J. Noguera (to Casablancas High Draft Co. Ltd). USP 2 951 267, Sept. 6, 1960. (4616)

Pivotally mounted top arm for weighting and guiding consecutive top drafting rolls.

Spinning, winding, twisting B4

TOP ARMS FOR ROLLER DRAFTING MECHANISMS. J. Noguera (to Casablancas High Draft Co. Ltd). BP 835 609, May 25, 1960. Through BCIRA 40: 2853 (1960). (4617)

The invention relates to top arms of the kind that extend over the drafting field from a rear mounting and serve to hold and weight consecutive dual-boss top rollers from their center necks. Compared with lateral mountings, such an arrangement is usually so bulky that the use of top-roller clearers is hampered. The invention seeks to overcome this defect, chiefly by replacing the usual deep side walls of the top arms by inverted channel pieces with shallow side walls.

DRAFTING MECHANISM FOR SPINNING MACHINES. Württembergische Spindelfabrik GmbH. BP 835 954, May 25, 1960. Through BCIRA 40: 2854 (1960). (4618)

In a drafting device having upper belts and individual cradles, two such cradles are movably mounted on the shaft of a twin roller and are loosely coupled together for rotation by means directly mounted on the shaft or acting through intermediate connections.

AUTOMATIC COP DOFFING AND DONNING MECHANISM FOR SPINNING AND SIMILAR TEXTILE MACHINES. R. Escursell-Prat and J. H. Serra (Spain). BP 836 815, June 9, 1960. Through BCIRA 40: 3142 (1960). (4619)

The devices for doffing full cops and donning empty ones comprise sheets of rubber cut with radial incisions at points corresponding with the spindles, and mounted on a common carrier shaft parallel to the row of spindles which is interconnected with a parallel driving shaft.

COP BUILDING MOTION FOR SPINNING MACHINES. O. Lambert (Belgium). BP 836 997, June 9, 1960. Through BCIRA 40: 3141 (1960). (4620)

The roving, sliver, or yarn is wound into a cop on a spindle by means of a cop builder that comprises a cylindrical block mounted on a hollow shaft and provided with at least three radial slots, equally spaced and communicating with the bore of the shaft and with a conical recess in the block, and a twisting device consisting of a sleeve that rotates with the cop builder, reciprocates parallel to the spindle axis, and has ports that register with the slots in the block.

FANCY YARN FRAMES. Berliner Maschinenbau AG. BP 837 314, June 9, 1960. Through BCIRA 40: 3145 (1960). (4621)

The invention relates to apparatus for controlling individual delivery rollers of a doubling frame for producing multi-colored fancy yarns. By its use, one effect (e. g. a knop) can be made successively in all the colors. The programme can be changed while the machine is running, thus giving more scope to the designer of fancy yarns.

METHOD OF AND MEANS FOR SECURING THE ENDS OF TEXTILE SPINDLE TAPES AND BANDS. W. Normanton (to Thomas Blackburn Ltd). BP 837 048, June 9, 1960. Through BCIRA 40: 3140 (1960). (4622)

The abutting ends of the tape are covered on one or both faces with a strip of narrow fabric woven from nylon or other thermoplastic yarn and coated on one side with a dry adhesive, e.g. latex. This fabric is conveniently provided as a roll and cut as required. The assembly is then stitched and heated to fuse the raw ends of the applied strip.

BRAKES FOR SPINNING AND TWISTING SPINDLES IN TEXTILE MACHINES. J. J. Rieter & Cie AG. BP 837 143, June 9, 1960. Through BCIRA 40: 3150 (1960). (4623)

The braking surface of the brake is the inner surface of a torus. The brake is mounted eccentrically outside the spindle and is pivoted so that it can be applied by rocking a lever. The pivotal mounting is integral with the lower member of the spindle.

YARN PACKAGES. R. G. C. Arridge (to Brit. Nylon Spinners Ltd). BP 837 417, June 15, 1960. Through BCIRA 40: 3152 (1960). (4624)

In the winding of double-taper yarn packages on down-twisting and like machines, the traverse is provided with a shift motion and moves at constant velocity over the central 94-95% of its stroke but then with monotonically increasing velocity to the end and decreasing velocity from the end to the beginning of the central region. The displacement/time relationship is such that at any point between the ends of the stroke the third differential of the relationship exists and is finite or zero everywhere. The mathematics of the relationship are worked out for a specific example and the dimensions of the traversing cam are tabulated.

RING TWISTING OR SPINNING MACHINES. Algemene Kunstzijde Unie NV. BP 837 800, June 15, 1960. Through BCIRA 40: 3143 (1960). (4625)

The invention relates to a draw-twisting machine as used for drawing and twisting polyamide and polyester yarns and having an auxiliary winding surface coaxial with the ring spindle so that the yarn may be wound without traversing movement on this surface or with a traverse onto the spindle.

SPINNING, DOUBLING, AND TWISTING MACHINES. H. Scowcroft (to T. M. M. (Research) Ltd). BP 838 908, June 22, 1960. Through BCIRA 40: 3144 (1960). (4626)

The invention relates to an electrical stop motion and is described with reference to a carpet-yarn spinning frame. A metal wire feeler arm is fixed to a shaft mounted in a bracket and has a terminal eye through which the yarn passes between the front rollers and the spindle. If the yarn fails, the arm trips into contact with a conducting member of the stop-motion circuit. A spring fixed to the shaft helps to maintain this contact.

TWISTING FRAME STOP MOTION. E. Hamel (Germany). USP 2 951 331, Sept. 6, 1960. (4627)

Individual element for stopping the thread supply to a twisting spindle on thread breakage without interfering with the operation of the other twisting spindles.

APPARATUS FOR AUTOMATICALLY CONTROLLING THE WEIGHT PER UNIT LENGTH OF TEXTILE MATERIALS DURING SPINNING. H. Locher (to Zellweger Ltd). USP 2 950 508, Aug. 30, 1960. (4628)

MAGNETIC WEIGHTED DRAFTING MECHANISM. V. A. Burnham (to Saco-Lowell Shops). USP 2 951 266, Sept. 6, 1960. (4629)

Drafting arrangement of a 3-roll stack type utilizes a short magnetic roll as the bottom drafting roll positioned between the long lowermost steel driving roll and the overlying top roll.

METHOD AND APPARATUS FOR LOOSENING BOBBINS FROM SPINDLES. R. M. Ingham, Jr. (to Deering Milliken Research Corp.). USP 2 952 113, Sept. 13, 1960. (4630)

The method utilizes the conventional ring rail of a spinning frame and its push type lifter rods to impart a force to the bobbins to loosen them. It is particularly applicable to automatic or semi-automatic doffing employing a common carrier support.

TWISTING SPINDLE BALLOON CONTROL. A. W. Vibber. USP 2 952 114, Sept. 13, 1960. (4631)

MANDREL FOR THE WINDING OF FILAMENTARY MATERIAL. P. M. Rice (to Celanese Corp.). USP 2 952 418, Sept. 13, 1960. (4632)

TRANSFER TAIL DEVICE FOR RING SPINNING MACHINES. R. A. Binns (to Allied Chem. Corp.). USP 2 952 965, Sept. 20, 1960. (4633)

The device utilizes, in combination with a yarn traversing mechanism including a ring rail, means for magnetically holding a spinning ring holder in position on the ring rail.

SPINNING AND TWISTING SPINDLE WITH HOLLOW ROD FOR LIQUID LUBRICATION OF ROTATING PARTS. P. Serra (Italy). USP 2 952 966, Sept. 20, 1960. (4634)

A plunger causes the intermittent rising of oil to the top of the spindle from which point the oil descends by gravity between the external surface of the rod and the internal surface of the whirl.

DOUBLE APRON DRAFTING ARRANGEMENT. A. Schiltknecht (to J. J. Rieter & Co. Ltd). USP 2 953 822, Sept. 27, 1960. (4635)

The lower apron is supported by means of an elastic bridge to permit variations in pressure between the aprons by a change in the configuration of the support bridge.

DEVICE FOR SEPARATING STACKED TRAVELERS AND PUSHING THEM ONTO THE RINGS OF RING SPINNING FRAMES. P. Ramseier (to Bräcker AG). USP 2 953 845, Sept. 27, 1960. (4636)

HYDRAULIC MEANS FOR MAINTAINING SPINDLE DRIVE BELTS OR CORDS UNDER PROPER TENSION. W. Stahlecker and H. Stahlecker (Germany). USP 2 953 894, Sept. 27, 1960. (4637)

DEVICE FOR LUBRICATING SPINDLES IN CAP TWISTING FRAMES. P. Dalix (to Chimiotex SA). USP 2 953 895, Sept. 27, 1960. (4638)

SUPPORTING SKEWER FOR YARN BOBBINS. F. L. Townsend (to Barber-Colman Co.). USP 2 954 183, Sept. 27, 1960. (4639)

The skewer is adapted to receive replaceable tips of varying outer diameters and bobbin holding fingers for use with the tips, so that bobbins having bores of different sizes may be readily handled.

PENDULOUS ROTARY BOBBIN HOLDER FOR SPINNING FRAMES. Y. Sekella (to Bendix Corp.). USP 2 954 184, Sept. 27, 1960. (4640)

DEVICE FOR CENTERING AND LOCKING BOBBINS ON SPINDLES. E. Colombu and H. Chapuis (to Chimiotex SA). USP 2 954 249, Sept. 27, 1960. (4641)

SPINDLE MOUNTING. F. E. Rowe, Jr. (to Deering Milliken Research Corp.). USP 2 954 661, Oct. 4, 1960. (4642)

Provision for alignment and plumbing of the spindles is made by the use of a thin-walled, tubular laterally movable base having upper and lower spherical concentric seating surfaces.

THREE LINE DRAFTING MECHANISM FOR SPINNING FRAMES. S. Noda (to Howa Kogyo KK). USP 2 955 329, Oct. 11, 1960. (4643)

Middle bottom and top roll arrangement which eliminates excessive weighting in achieving positive bites in the main and back drafting zones.

APPARATUS FOR CONTROLLING YARN BALLOONING IN TWO-FOR-ONE TWISTING. E. W. Starnes. USP 2 955 410, Oct. 11, 1960. (4644)

Yarns B5

APPARATUS FOR HEAT-STRETCHING SYNTHETIC FIBER TIRE CORDS. C. A. Litzler. USP 2 952 078, Sept. 13, 1960. (4645)

TIRE CORD SHIPPING BEAMS. W V. Henry (to Am. Enka Corp.). USP 2 953 316, Sept. 20, 1960. (4646)

TEXTILE SPOOL. R. Atwood and C. C. L'Allemand (to Decorated Metal Mfg. Co.). USP 2 953 317, Sept. 20, 1960. (4647)

The spool is formed by applying a previously formed plastic covering to a metal barrel.

MELT-SPINNING PROCESS FOR PRODUCTION OF KNOP OR FLAKE YARNS. G. M. Egger (to Soc. de la Viscose Suisse). USP 2 953 427, Sept. 20, 1960. (4648)

TIRE CORD HEAT STRETCHING APPARATUS. C. A. Litzler and J. A. Horazak (to C. A. Litzler Co.). USP 2 955 342, Oct. 11, 1960. (4649)

APPARATUS FOR PRODUCING COMPOSITE YARN. P. N. Smith and A. D. Harmon (to Deering Milliken Research Corp.). USP 2 953 893, Sept. 27, 1960. (4650)

Composite filament/staple fiber yarns are prepared by subjecting continuous filament yarns to friction to cause separation of the filaments, contacting the separated filaments with staple fibers, and twisting to entwine them.

TIRE CORD HEAT STRETCHING TREATMENT. I. B. Prettyman (to Firestone Tire & Rubber Co.). USP 2 955 344 and 2 955 345, Oct. 11, 1960. (4651)

Method of subjecting continuous lengths of tire cords to conditions of tension, high temperature, and controlled stretch and relaxation in three successive zones.

CONTINUOUS APPARATUS FOR MAKING PAPER YARN. R. H. Marks. USP 2 955 408, Oct. 11, 1960. (4652)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C1

COPS FOR DYEING. D. Delerue. BP 836 885, June 9, 1960. Through BCIRA 40: 3173 (1960). (4653)

The cop is conically wound on a cylindrical support that fits over the winding spindle and terminates in a perforated conical base plate.

APPARATUS FOR TYING THREADS. Zellweger Ltd. BP 837 077, June 9, 1960. Through BCIRA 40: 3179 (1960). (4654)

Apparatus for tying elastic threads comprises a stationary sleeve about which the loops are formed, a pull-in hook that can move lengthwise in the sleeve and holds the thread ends while the knot is being completed, a clamp that rotates three times about the sleeve and holds the ends so tightly that the threads cannot slide out as a result of the elastic tension, until the pull-in hook is ready to clamp the ends inside the sleeve.

SECTIONAL WARP BEAMS OR BOBBINS. L. Lasch and J. Wright (to Magnesium Elektron Ltd). BP 837 152, June 9, 1960. Through BCIRA 40: 3176 (1960). (4655)

A warp beam flange is produced from aluminum or magnesium alloy with a number of ribs and recesses whereby two beams placed end to end can be locked together, the ribs on one flange entering the recesses on its neighbor.

BOBBIN WINDING MACHINES. C. G. Rosenkranz, H. Halstenbach, and A. Plutte (Germany). BP 837 161, June 9, 1960. Through BCIRA 40: 3172 (1960). (4656)

In an automatic bobbin winding machine having a yarn guide that moves on a reciprocatable rod adjacent to the winding station and is coupled to the rod during winding but disengaged and transferred to a position of readiness during replacement of a full by an empty bobbin, the means for holding the guide in readiness comprises pawl mechanism controlled by the change mechanism. Various types of pawl are claimed.

HIGH SPEED BEAMING MACHINES FOR BEAMING TEXTILE FIBERS AND FILAMENTS. F. Holt and G. Lee (to Thomas Holt Ltd). BP 837 315, June 9, 1960. Through BCIRA 40: 3175 (1960). (4657)

As the yarn is wound on a driven beam, its build-up is controlled by a pressure roller that is pivoted for short arcuate movements towards and away from the beam. These movements operate a micro-switch connected to a motor whereby the beam is inched away from the pressure roller as it builds up and winding occurs at constant linear speed.

WARPING MILLS. F. T. Sobey (to E. Wadsworth & Sons Ltd). BP 837 540, June 15, 1960. Through BCIRA 40: 3174 (1960). (4658)

The invention relates to a warping mill in which, during the winding off the drum and on to a beam, the yarn makes contact with a roller rotating in a trough of conditioning fluid. To prevent undue contact of the warp with the conditioning fluid when an end breaks, the roller is mounted on brackets each carrying a cam surface engaging a slide that serves as a stop motion. If the machine stops, the roller drops out of contact with the warp.

CONE WINDING MACHINES. F. Holt and G. Lee (to Thomas Holt Ltd). BP 837 685, June 15, 1960. Through BCIRA 40: 3171 (1960). (4659)

In winding heavy cones (e.g. of jute yarn) on a machine in which the cone is driven by frictional contact with a roller, it is not until the windings have become heavy enough that a satisfactory driving contact is established. To overcome this difficulty it is proposed to maintain the correct ratio between the revolutions of the traversing cam and the revolutions of the cone by driving the cam from the cone until the required cone diameter is reached, when a solenoid device breaks this positive connection.

SIZING OF YARNS. Inventa AG. BP 837 835, June 15, 1960. Through BCIRA 40: 3177 (1960). (4660)

An aqueous solution of an N-polyvinyl lactam (e.g. N-polyvinylpyrrolidone or N-polyvinylcaprolactam) is claimed as a size for nylon yarns, e.g. for knitting.

APPARATUS FOR CLAMPING WARP THREADS. Zellweger Ltd. BP 838 587, June 22, 1960. Through BCIRA 40: 3180 (1960). (4661)

For use in a warp tying machine, the warp ends are pressed into the spaces of a comb device and held there by a clamp.

COMBINED YARN TENSION CONTROL AND STOP MOTION DEVICE FOR WARP BEAMING MACHINE. H. Stanier (England). USP 2 952 890, Sept. 20, 1960. (4662)

YARN-END FINDING AND TYING DEVICES FOR WINDING MACHINES. S. Fürst (to Walter Reiners). USP 2 954 178, Sept. 27, 1960. (4663)

WARPING MACHINE. H. C. Noe (to Kidde Textile Machy. Corp.). USP 2 955 897, Oct. 11, 1960. (4664)

Pressure operated system for effecting movement of the pressure roll mechanism and/or doffing mechanism.

OVEREND UNWINDING DEVICE. E. E. Hasler and A. J. Murer (to Deering Milliken Research Corp.). USP 2 953 318, Sept. 20, 1960. (4665)

Yarn package encompassing cage for exercising a constructive pressure on the package as it decreases in diameter in order to prevent the formation of kinks or snarls.

YARN SIZING APPARATUS. L. Armstrong (to Brit. Cotton Ind. Research Assoc.). USP 2 953 476, Sept. 20, 1960. (4666)

Apparatus for controlling the rate and amount of size applied by feeding the sizing liquor to the bight between the rolls through which the yarn passes by means of a reservoir.

SIZING AGENT FOR BIAS-CUT WOVEN GLASS FABRIC. W. W. Evans (to Exeter Mfg. Co.). USP 2 953 477, Sept. 20, 1960. (4667)

Polyvinyl alcohol combined with a maleic anhydride/styrene interpolymer is used to bond the yarns of a bias cut glass fabric for use in electrical insulation.

WINDING MACHINE TENSION RESPONSIVE DRIVE CONTROL MECHANISM. R. L. Fulghum. USP 2 954 179, Sept. 27, 1960. (4668)

YARN DELIVERY ARRANGEMENT. J. H. Sawyer (to Deering Milliken Research Corp.). USP 2 954 181, Sept. 27, 1960. (4669)

Guide mechanism for controlling tension and preventing kinking during overend delivery of twisted, fine denier yarns from a supply package, e.g. during knitting.

TEXTILE BEAM RACK. J. P. Laird (to Equipment Mfg., Inc.). USP 2 954 197, Sept. 27, 1960. (4670)

YARN BREAKAGE STOP MOTIONS FOR AXMINSTER SPOOL SETTING FRAMES. I. B. Bassindale (to T. M. M. (Research) Ltd). USP 2 955 343, Oct. 11, 1960. (4671)

BOBBIN WINDING APPARATUS. R. H. Speakman (to Imp. Chem. Inds. Ltd). USP 2 955 409, Oct. 11, 1960. (4672)

Method of preventing yarn wrapping on the spindle whorl in the continuous collection of yarns on bobbins by means of a suction tube fitted near the bobbin on the side away from the yarn source.

APPARATUS SUITABLE FOR WINDING OF WIRES AND YARNS FOR USE IN BRAIDING. A. J. Ensor (England). USP 2 955 770, Oct. 11, 1960. (4673)

Metering wheel with non-slip surface for ensuring that all ends fed to a takeup reel go on at a uniform rate so that uniform lengths will later be delivered for each rotation of the reel.

GLASS FIBER WINDER. M. A. Case. USP 2 955 772, Oct. 11, 1960. (4674)

Weaving C2

SULZER LOOMS. Sulzer Frères SA. BP 835 538, May 25, 1960. Through BCIRA 40: 2879 (1960). (4675)

The invention is concerned with the problem of accommodating 3 or 4 axes of rotation or oscillation in the limited space beneath the warp shed between the heddle shafts and their drive and the cloth beam, especially on wide looms and looms of the Sulzer gripper-shuttle type.

WEAVING SHAFTS. E. Fröhlich AG. BP 836 533, June 1, 1960. Through BCIRA 40: 3183 (1960). (4676)

The invention relates to means for fastening the carrier rods to the side stays of a heddle frame. A resilient element (e.g. rubber) is inserted in a hollow space in each of the rods and a bolt is passed through a bore in the stay, through the rubber and into a plate in the rod. On tightening the bolt the rubber is forced to expand and fill the hollow space.

SHUTTLELESS LOOMS WITH CONTINUOUS WEFT SUPPLIES. Etablissement Matex. BP 837 271, June 9, 1960. Through BCIRA 40: 3181 (1960). (4677)

The invention relates to a shuttleless loom for weaving narrow fabrics, in which a weft thread is looped around a binding warp thread running along one edge of the fabric from a spool mounted in a reciprocating carriage (see BP 662 195). According to the present claims this carriage makes sliding engagement upon guide posts that are normal to the weaving plane and are fixed within a stationary bracket. The carriage is capable of limited displacement relative to a bobbin holder that also makes sliding engagement on the posts and has a bobbin spindle at right angles to the posts.

SHUTTLE CHANGING MECHANISM FOR RIBBON MAKING LOOMS. G. M. V. J. Choupin. BP 837 461, June 15, 1960. Through BCIRA 40: 3182 (1960). (4678)

The mechanism comprises (1) a magazine for spare front shuttle sections, these being subjected at the moment of change to a downward movement under the action of (2) a sliding, toothed plunger that puts the lowermost spare shuttle into engagement as the exhausted front section is disengaged. The plunger is long enough for its outermost tooth to engage in the gap between the operative front shuttle section and the spare front section at the bottom of the magazine.

LOOM JACK STICK ASSEMBLY. G. C. McGuire and R. D. Whiting (to Draper Corp.). USP 2 951 507, Sept. 6, 1960. (4679)

The pulldown parts of the assembly are easily separated from the jack stick itself so that any part may be replaced individually.

BEAT LINE CONTROL FOR WIRE LOOMS. B. B. Purdy and E. M. Jenkel. USP 2 951 508, Sept. 6, 1960. (4680)

RIBBON LOOM WEFT MECHANISM. E. Redaelli (Italy). USP 2 951 510, Sept. 6, 1960. (4681)

Automatic detection of weft thread exhaustion and replacement of filling bobbin.

WARP TENSION CONTROL AND VIBRATION DAMPER FOR LOOM. E. Pfarrwaller (to Sulzer Frères SA). USP 2 951 509, Sept. 6, 1960. (4682)

LOOM BOBBIN CHUTE. O. H. Hollifield and J. E. Drury. USP 2 951 511, Sept. 6, 1960. (4683)

For weft replenishing looms with transfer mechanisms for expelling depleted bobbins into chutes.

PICKING MOTION FOR CONVERTED NARROW FABRIC LOOMS. E. A. Ross. USP 2 952 277, Sept. 13, 1960. (4684)

The motion may be used in converting a wide loom to the manufacture of narrow fabrics or applied to a wide fabric loom.

SETTING OF AXMINSTER SPOOLS. P. W. Robinson (England). USP 2 952 891, Sept. 20, 1960. (4685)

LOOM FOR WEAVING WOOD STRIPS. F. H. Blake. USP 2 954 055, Sept. 27, 1960. (4686)

GRIPPER SHUTTLE LOOM WEFT CUTTER. R. Whewell (to Warner & Swasey Co.). USP 2 954 056, Sept. 27, 1960. (4687)

PICKER STICK CHECK. A. A. Laferte (to Draper Corp.). USP 2 954 057, Sept. 27, 1960. (4688)

The rebound of the picker stick and shuttle is reduced by supplementing the check strap with a second, outer strap fixed at both ends but connected to a spring-biased member, so that the stop strap is elongated at a decreasing rate until the picker stick is stopped.

FILLING BUNCH EXTRACTOR. J. A. Cugini and H. N. Thibault (to Draper Corp.). USP 2 954 058, Sept. 27, 1960. (4689)

Air operated gripping means which removes the filling bunch from the bobbin prior to its transfer to a shuttle and transfers the filling bunch to a suction removal device.

PLASTIC LAGS FOR DOBBY LOOMS. V. Balduini and E. Balduini (Italy). USP 2 954 059, Sept. 27, 1960. (4690)

The lags are designed to permit hand insertion and removal of pegs.

AXMINSTER CARPET LOOMS. G. Wilkesmann (Germany). USP 2 954 805, Oct. 4, 1960. (4691)

In a jacquard controlled mechanism for selecting tuft yarns and filling them into grippers, the filling mechanism is mounted separately from the loom but connected with it by means of a conveyor mechanism. The latter conveys the rows of grippers from the filling mechanism to the loom in the order in which they are filled according to the pattern.

WEFT YARN TENSIONING MEANS IN WEFT BOBBINS OF AUTOMATIC MULTIPLE BOX LOOMS. K. Schwabe (to Tissomat AG). USP 2 955 620, Oct. 11, 1960. (4692)

SHUTTLELESS LOOM SELVAGE MOTION. M. R. Flamand (to Draper Corp.). USP 2 955 619, Oct. 11, 1960. (4693)

Harness frame for a warp selvage motion, which is independently operable of the harness frame for the main warp body, by means of which the warp selvage threads are crossed only on alternate picks at their extreme vertical position.

WEFT REPLENISHING MECHANISM FOR LOOMS. T. S. Higgins (to Draper Corp.). USP 2 955 621, Oct. 11, 1960. (4694)

Timer mechanism for controlling the operation of an air-operated filling bunch extractor mechanism.

AUTOMATIC BOBBIN-CHANGING MECHANISM FOR LOOMS. A. H. Deucher (Switzerland). USP 2 955 724, Oct. 11, 1960. (4695)

Knitting C3

HOSIERY FABRIC MEASURING MACHINE. T. S. Nutting and T. K. Morley (to Hosiery & Allied Trades Research Assoc.). BP 836 581, June 1, 1960. Through BCIRA 40: 3184 (1960). (4696)

The claims are for a machine for measuring the length of stockings as a means of checking stitch lengths in the course of manufacture. It has a fixed and a movable anchorage for gripping the welt and toe, means for stretching until a predetermined tension is reached, and an indicator on which the length is read.

SHEER SURGICAL STOCKINGS. J. Gift (to Kayser-Roth Corp.). USP 2 948 132, Aug. 9, 1960. (4697)

The stocking has courses of covered rubber yarn in alternation with courses in which loops of plain thermoplastic yarn are doubled with loops of a preset torsioned thermoplastic stretch yarn.

CIRCULAR HOSIERY MACHINE. M. R. Bryant. USP 2 951 355, Sept. 6, 1960. (4698)

Means for varying the diameter of the fabric on a single size needle cylinder.

MEANS FOR ATTACHING YARN ENDS IN KNITTING TUBULAR FABRIC. E. R. Ziemba (to Textile Mach. Works). USP 2 952 147, Sept. 13, 1960. (4699)

Means for controlling the operation of circular multifeed machines to secure yarn ends into the fabric when feeding stations are placed in or taken out of operation.

LAP YARN END CUTTING ATTACHMENT FOR SEAMLESS HOSIERY MACHINES. E. F. Rather (to Wayne Knitting Mills). USP 2 952 148, Sept. 13, 1960. (4700)

ARGYLE PATTERNING MECHANISM FOR CIRCULAR HOSIERY MACHINE. H. E. Crawford (to H. E. Crawford Co.). USP 2 953 004, Sept. 20, 1960. (4701)

Means for shogging the needle cylinder to change the center of reciprocating movements in forming Argyle designs.

METHOD OF KNITTING A COMBINATION PANTY GIRDLE. J. E. Halliday, Jr., and M. H. Faust. USP 2 952 149, Sept. 13, 1960. (4702)

YARN SUPPLY TENSION COMPENSATOR FOR USE WITH KNITTING MACHINE. C. G. Newton (Canada). USP 2 952 393, Sept. 13, 1960. (4703)

Device which automatically compensates for variations in yarn cone or tube unwinding tensions and constantly delivers the yarn at zero tension and a self adjusting feed according to the knitting requirements.

STRETCHABLE WELT FOR SEAMLESS HOSIERY. H. E. Crawford (to H. E. Crawford Co.). USP 2 953 003, Sept. 20, 1960. (4704)

Method of knitting welts on a multifeed machine from elastic and inelastic yarns fed at separate stations.

AUXILIARY NEEDLE BED ACTUATOR FOR HAND KNITTING APPARATUS. H. Schürich and O. Bunge (Germany). USP 2 953 005, Sept. 20, 1960. (4705)

STITCH-TRANSFER NEEDLE FOR CIRCULAR KNITTING MACHINES. R. E. Zeruneith. USP 2 953 914, Sept. 27, 1960. (4706)

Needle with yarn-engaging and yarn-spreading flange which permits the yarn to be twisted during its transfer from a needle in one bank to a needle in the other bank.

CIRCULAR HOSIERY MACHINE. G. R. Morin (to Cormier Hosiery Mills). USP 2 954 686, Oct. 4, 1960. (4707)

Means for inactivating selected needles during the knitting of toe and heel sections.

NON-RUN HOSIERY. R. Stucki (Canada). USP 2 955 444, Oct. 11, 1960. (4708)

Stocking composed entirely of non-run fabric and in which the loops of each course are inclined in the opposite direction from those in each course immediately preceding or following it to prevent the stocking from twisting during wearing.

FULL-FASHIONED STOCKINGS WITH ANTI-RUN DEVICE. A. R. Parthum (Denmark). USP 2 955 445, Oct. 11, 1960. (4709)

Special anti-run threads are knitted along the whole of the foot reinforcement and are transferred from one or more wales to other wales to form cross-binding stitches at the points of crossing.

Fabrics C4

CURTAIN HEADING TAPE. R. French (to Thomas French & Sons Ltd). BP 837 693, June 15, 1960. Through BCIRA 40: 3192 (1960). (4710)

In weaving curtain heading tape with a single shuttle, the weft being made to bind in extra warp-like elements at intervals to create pockets for the hooks, it is proposed to mix these extra warps with thermoplastic yarns or filaments so that the pockets may be strengthened by applying heat and pressure.

PLUSH-LIKE PRODUCT SUCH AS CARPET OR THE LIKE AND A MACHINE FOR PRODUCING THE SAME. H. Mauersberger (to VEB Tüllmaschinenbau). BP 836 226 and 836 227, June 1, 1960. Through BCIRA 40: 3185 (1960). (4711)

(1) The pile threads are knitted to a ground fabric to form plush loops the thread elements of which extend between adjacent stitch wales and at an angle to the direction of the wales in zig-zag formation, each loop being secured at the back of the ground fabric by stitch loops in adjacent wales. (2) The fabric consists of non-knitted weft and/or warp threads with plush loops as above.

PILE FABRICS. Montecatini Soc. gen. per l'Industria Mineraria e Chimica. BP 836 254, June 1, 1960. (Addition to BP 810 023). Through BCIRA 40: 3194 (1960). (4712)

The fabric is formed, at least in part, of mono- or multi-filament or staple fiber yarn of stretched polypropylene. The chief merit of this material is its high elasticity and therefore resistance to creasing.

(1) PRODUCTION OF NET OR NET-LIKE FABRICS BY EXTRUSION METHODS. (2) PRODUCTION OF FABRICS. F. B. Mercer (to Plastic Textile Accessories Ltd). BP 836 555 and 836 556, June 1, 1960. Through BCIRA 40: 3186 (1960). (4713)

(1) The invention relates to the production from a molten or dissolved plastic, in a single extrusion operation, of flat or tubular net-like structures in which the mesh strands are fused together at points of intersection. The apparatus includes two sets of die orifices through which the mass is forced, and means to displace them so as to create various meshes. (2) A tubular sheeting is reinforced with a net-like structure of the above type, all formed in one extrusion operation.

IMPREGNATION OF FIBROUS SHEET MATERIAL WITH SYNTHETIC RESINS. F. J. Herman and E. Rossi (to Reichold-Beckacite). BP 836 786, June 9, 1960. Through BCIRA 40: 3268 (1960). (4714)

The claims are for impregnated sheet material (e.g. of glass fiber fabric) that can be stored in a roll and bonded to like material (e.g. in laminates) under heat and pressure. The resin mixture comprises a polymerized glycol ester of an unsaturated dicarboxylic acid, especially the propyleneglycol ester of 1:4:5:6:7:7-hexachlorobicyclo-(2:2:1)5-heptene-2:3-dicarboxylic acid (het acid) and 8-20% of an unconjugated monomer having a CH_2:C:group, e.g. styrene, diallyl phthalate or triallyl cyanurate.

METHOD FOR MAKING PILE FABRIC. Midland Silicones Ltd. BP 837 366, June 15, 1960. Through BCIRA 40: 3195 (1960). (4715)

A flat tricot knit fabric (especially of cellulose triacetate, Terylene, nylon, Orlon or Dynel) is passed through a liquid silicone, dried, cured, napped, passed near an electrostatic bar to cause the napped fibers to stand out, and then napped again.

ELASTIC NONWOVEN FABRIC. M. T. Hoffman. USP 2 951 278, Sept. 6, 1960. (4716)

Elastic nonwoven fabric consisting of a base sheet of rubber and a lining layer of a nonwoven fabric attached to the base sheet at spaced points.

METHOD OF FORMING AN ELASTIC FABRIC. L. R. B. Hervey (to Am. Viscose Corp.). USP 2 951 005, Aug. 30, 1960. (4717)

The fabric comprises a permeable, reticulated elastomeric web (see USP 2 950 752) with a surface coating of flocked fibers.

FINISHING D

APPARATUS FOR CONTINUOUS TREATMENT OF TEXTILE MATERIAL UNDER PRESSURE AS IN AN AUTOCLAVE. M. Yazawa and M. Arakawa (to Kanegafuchi Spinning Co. Ltd). USP 2 954 687, Oct. 4, 1960. (4718)

Chemical processes D1

FLAMEPROOFING OF CELLULOSE. F. Ward (to Courtaulds Ltd). BP 835 581, May 25, 1960. Through BCIRA 40: 2930 (1960). (4719)

The fabric is impregnated with a solution containing an aminoplast resin precondensate (e.g. melamine + formaldehyde) and a phosphoramidate ester.

COMPOSITION FOR THE PRODUCTION OF WATER-REPELLENT FINISHES. L. H. Groves, J. A. Hall, and J. W. Roberts (to Imp. Chem. Inds. Ltd). BP 835 596, May 25, 1960. Through BCIRA 40: 2931 (1960). (4720)

The agents are pastes, dispersions, or emulsions of the methylolamides of higher fatty acids.

AMINOPLASTIC RESIN FINISHING AGENTS. H. Knoblauch, F. Kaess, E. Vogel, and E. Doehlenann (to Süddeutsche Kalkstickstoff Werke AG). BP 835 597, May 25, 1960. Through BCIRA 40: 2928 (1960). (4721)

Agents for the impregnation of fabrics, etc., comprise a precondensate of formaldehyde with dicyandiamide or melamine and a salt of urea, melamine or dicyandiamide.

OPTICAL BRIGHTENING OF ARTIFICIAL FIBERS. Ciba Ltd. BP 835 719, May 25, 1960. Through BCIRA 40: 2920 (1960). (4722)

A large variety of optical brightening agents do not exhaust on to cellulose triacetate, nylon, Terylene, Acrilan and the like. They are successfully applied to these fibers in combination with an artificial resin.

TRIAZOLYL-STILBENE OPTICAL WHITENING AGENTS. D. A. W. Adams and A. K. Sarkar (to Hickson & Welch Ltd). BP 835 779, May 25, 1960. Summary in BCIRA 40: 2923 (1960). (4723)

DIARYLOXAZOLE DERIVATIVES AS OPTICAL BRIGHTENING AGENTS. Ciba Ltd. BP 835 892, May 25, 1960. Summary in BCIRA 40: 2921 (1960). (4724)

CHLORINE RESISTANT CREASEPROOFING FINISH FOR CELLULOSIC FABRIC. C. D. Stump (to Joseph Bancroft & Sons Co.). USP 2 952 892, Sept. 20, 1960. (4725)

The combination of a polymerized acrylic resin and a silicone resin is claimed.

THREAD ADVANCING REEL FOR CONTINUOUS LIQUID TREATMENT APPARATUS. O. V. Drtina. USP 2 953 007, Sept. 20, 1960. (4726)

TOW PROCESSING APPARATUS. W. O. Young, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 953 289, Sept. 20, 1960. (4727)

The guide rolls are provided over their surfaces with closely spaced, minute passages for air or other gases to be forced outwardly from within to prevent any tendency for the filaments to wrap around them.

LIQUID AFTERTREATMENT OF TOWS. M.-O. Schürmann (to Farbenfabriken Bayer AG). USP 2 953 424, Sept. 20, 1960. (4728)

Apparatus for applying acid to cuprammonium cellulose tow at high speeds in fine jets to remove excess coffer.

FIRE-RETARDANT CELLULOSIC COMPOSITIONS. E. H. Rossin and M. J. Scott (to Monsanto Chem. Co.). USP 2 953 463 and 2 953 464, Sept. 20, 1960. (4729)

Afterglow-resistant and flame-retardant cellulose fibers are prepared from spinning solutions containing the reaction product of phosphoryl chloride and ammonia.

GLASS FIBERS COATED WITH ACETONE-FORMALDEHYDE RESINS FOR NONWOVEN FABRICS OR LAMINATES. M. T. Harvey and P. L. Rosamilia (to Harvel Research Corp.). USP 2 953 478, Sept. 20, 1960. (4730)

CREASEPROOFING COMPOSITION. H. Wedell (to Boehme Fettchemie GmbH). USP 2 953 481, Sept. 20, 1960. (4731)

The use of high molecular weight sulfonic or phosphonic acid salts of ammonia or organic bases as condensation catalysts is claimed.

Dyeing and printing D2

POLYGLYCOL ETHER DERIVATIVES. Ciba Ltd. BP 835 267, May 18, 1960. Through BCIRA 40: 2700 (1960). (4732)

Leveling agents for use in the dyeing of wool and other nitrogenous fibers are made by the action of ethylene oxide (20-100 mols) on bases of the formula $CH_3 \cdot (CH_2)_m \cdot NH \cdot (CH_2)_n \cdot CH_3$ in which m and n are 7 to 17 and m + n is at least 18.

PROCESS FOR DYEING FIBERS AND FOILS OF AROMATIC POLYESTERS. Farbwerke Hoechst AG. BP 835 441, May 18, 1960. (Addition to BP 809 221). Through BCIRA 40: 2699 (1960). (4733)

Materials on the Terylene type are treated continuously in a short bath containing a primary aromatic amine and a coupling component dissolved in glycol, butyl alcohol, dimethylformamide, N-methylpyrrolidone, or a like solvent; the material is then heated dry or in steam, and transferred to a diazotizing bath. The coupling agents particularly claimed are 1-(2':3'-hydroxynaphthoylamino)-2-methoxybenzene and 1-(2'-hydroxycarbazole-3'-carboylamino)-4-chlorobenzene.

DRIVING MECHANISM FOR SCREEN PRINTING MACHINES. M. Moss (to Colden Mfg. Co. Ltd). BP 835 586, May 25, 1960. Through BCIRA 40: 2927 (1960). (4734)

The invention relates to means for intermittently forwarding the fabric by an accurate but adjustable distance.

APPARATUS FOR DYEING SLIVERS. E. Schütz (to Kammgarnspinnerei Kaiserslautern). USP 2 948 137, Aug. 9, 1960. (4735)

Loading device by means of which a uniform pressure may be applied on the slivers even though the volume of material to be dyed might change during the process.

DYEING PROCESS FOR PROTEIN AND REGENERATED PROTEIN FIBERS. H. R. Hadfield, B. Batterbee, and D. R. Lemin (to Imp. Chem. Inds. Ltd). USP 2 950 165, Aug. 23, 1960. (4736)

Low temperature dyeing with increased levelness is carried out with water-soluble azo and anthraquinone dyes in the presence of an acid-binding agent.

CARRIER FOR THE DYEING OF POLYESTER FIBERS WITH DISPERSE DYES. P. Schlack (to Farbwerke Hoechst AG). USP 2 950 949, Aug. 30, 1960. (4737)

An aromatic compound containing from one to two aromatic rings and substituted by one to two lactone rings is claimed.

VAT DYEING MACHINE. B. F. H. Mellbin (Sweden). USP 2 951 356, Sept. 6, 1960. (4738)

Movable chamber for maintaining impregnated fabrics at desired conditions of temperature and humidity for sufficient time to allow for dye diffusion.

CHROME DYEING OF GLASS FIBERS. W. T. Roff, Jr. (to J. P. Stevens & Co.). USP 2 951 739, Sept. 6, 1960. (4739)

The glass fiber fabric is reacted with a Werner type acrylato chromic chloride complex and the product dyed with a chrome dye.

PRETREATMENT FOR INCREASING THE RECEPTIVITY OF ACRYLIC FIBER BLENDS TO DIRECT AND ACID DYES. W. C. Carter and E. D. Smith (to Chemstrand Corp.). USP 2 952 505, Sept. 13, 1960. (4740)

PROCESS FOR EVEN AND LEVEL DYEING OF FILAMENT NYLON FABRICS WITH ANIONIC DYES. D. D. Dellis (to Chemstrand Corp.). USP 2 952 506, Sept. 13, 1960. (4741)

Substituted imidazolines are claimed as leveling agents.

PATTERNED TONE-ON-TONE EFFECTS ON CELLULOSE TRIACETATE FABRICS. F. Fortess and F. Best (to Celanese Corp.). USP 2 954 269, Sept. 27, 1960. (4742)

Following embossing, the fabric is dyed with a disperse dye and the embossed effect is removed to produce a flat fabric with a tone-on-tone pattern.

Drying, setting, conditioning D4

DRYING APPARATUS. R. R. Clegg and J. Hey (to Tomlinsons (Rochdale) Ltd). BP 834 589, May 11, 1960. Through BCIRA 40: 2707 (1960). (4743)

The invention relates to a drying chamber the skeleton of which comprises L-shaped and channel-sectioned members into which insulating panels can be fitted, the whole chamber thus being assembled with few rivets, bolts, and the like.

BLOWER NOZZLES FOR TENTER DRYERS. Vits-Elektro GmbH. BP 835 251, May 18, 1960. Through BCIRA 40: 2709 (1960). (4744)

The nozzles are arranged in alternate staggered relationship on both sides of the material in such a way that the jets of hot-air strike the material alternately with and against the run.

CONVECTION TREATMENT APPARATUS. W. W. Spooner (to Spooner Dryer & Eng. Co. Ltd). BP 835 899, May 25, 1960. Through BCIRA 40: 2934 (1960). (4745)

The invention relates particularly to drying apparatus in which hot air is projected through slit-like nozzles against a traveling length of textile fabric. It provides for the use of interchangeable nozzles of different types for different purposes.

TESTING AND MEASUREMENT E

Yarns E2

METHOD AND APPARATUS FOR MEASURING FIBER LENGTH DISTRIBUTION IN TEXTILE SLIVERS, ROVINGS, AND YARNS. S. L. Anderson and E. H. Webster (to Wool Inds. Research Assoc.). BP 835 217, May 18, 1960. Through BCIRA 40: 2753 (1960). (4746)

A draw or tuft of fibers (especially wool) is prepared with one end aligned and held in a clamp. The assembly is then traversed in measured steps between the electrodes of a condenser wired in a high-frequency capacity measuring circuit and the capacity changes are plotted as a measure of the amount of fiber in the successive length groups.

SPECTROGRAPH FOR DETERMINING PERIODIC VARIATIONS IN WEIGHT PER UNIT LENGTH OF TEXTILE MATERIALS. H. Locher and E. Felix (to Zellweger AG). USP 2 950 435, Aug. 23, 1960. (4747)

DIFFERENTIAL ELECTRICAL CONDENSER FOR DETERMINING THE IRREGULARITY OF TEXTILE MATERIALS. A. Butticaz, C. Tesage, and H. Dembowski (France). USP 2 950 436, Aug. 23, 1960. (4748)

Fabrics E3

YARN COUNTING DEVICE. W. Witte (Germany). BP 834 089, May 4, 1960. Through BCIRA 40: 2508 (1960). (4749)

A counter of the movable-needle type, fitted with a magnifying glass, is also provided with an attachment by which it can be connected to a pocket torch for illumination purposes.